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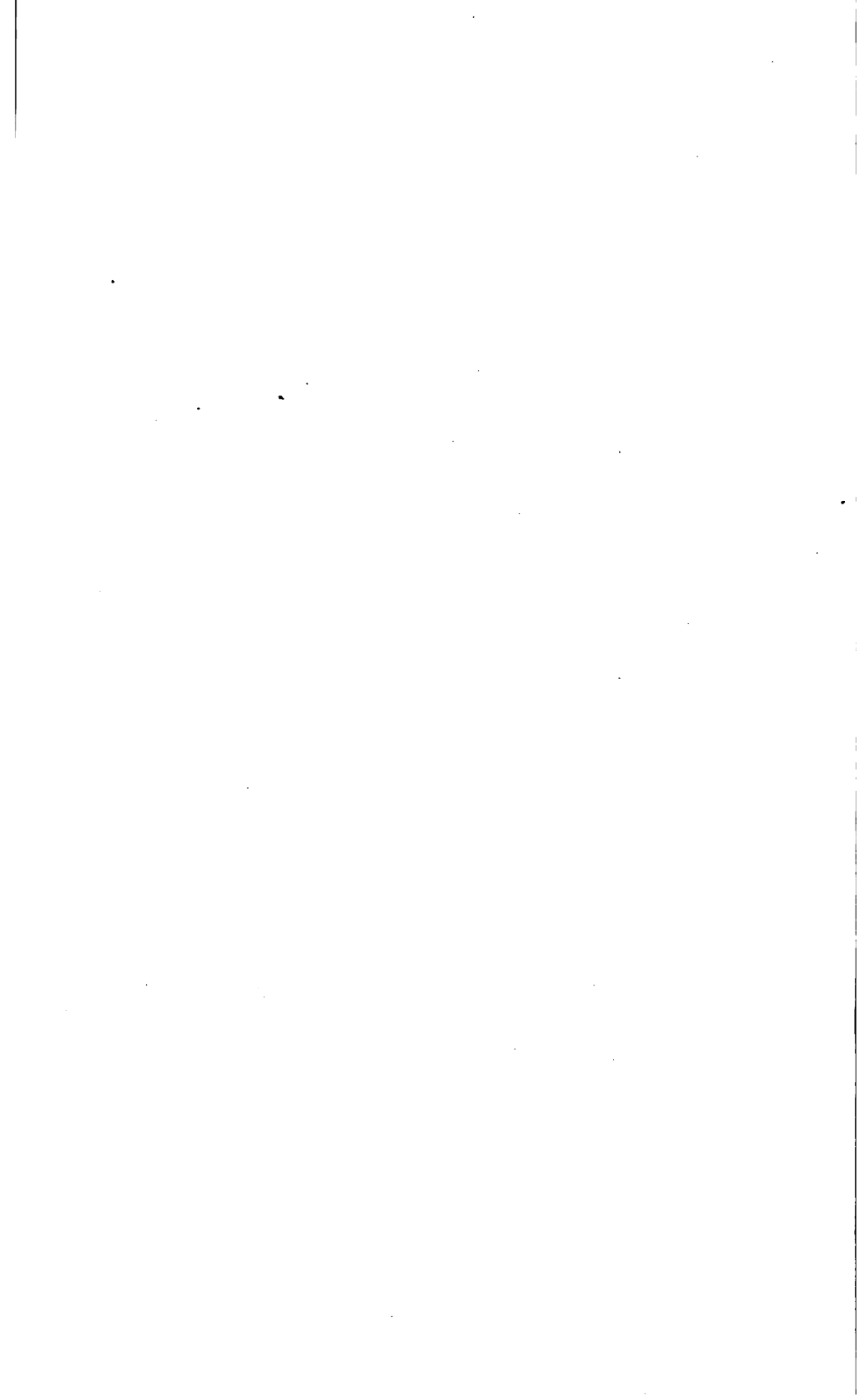
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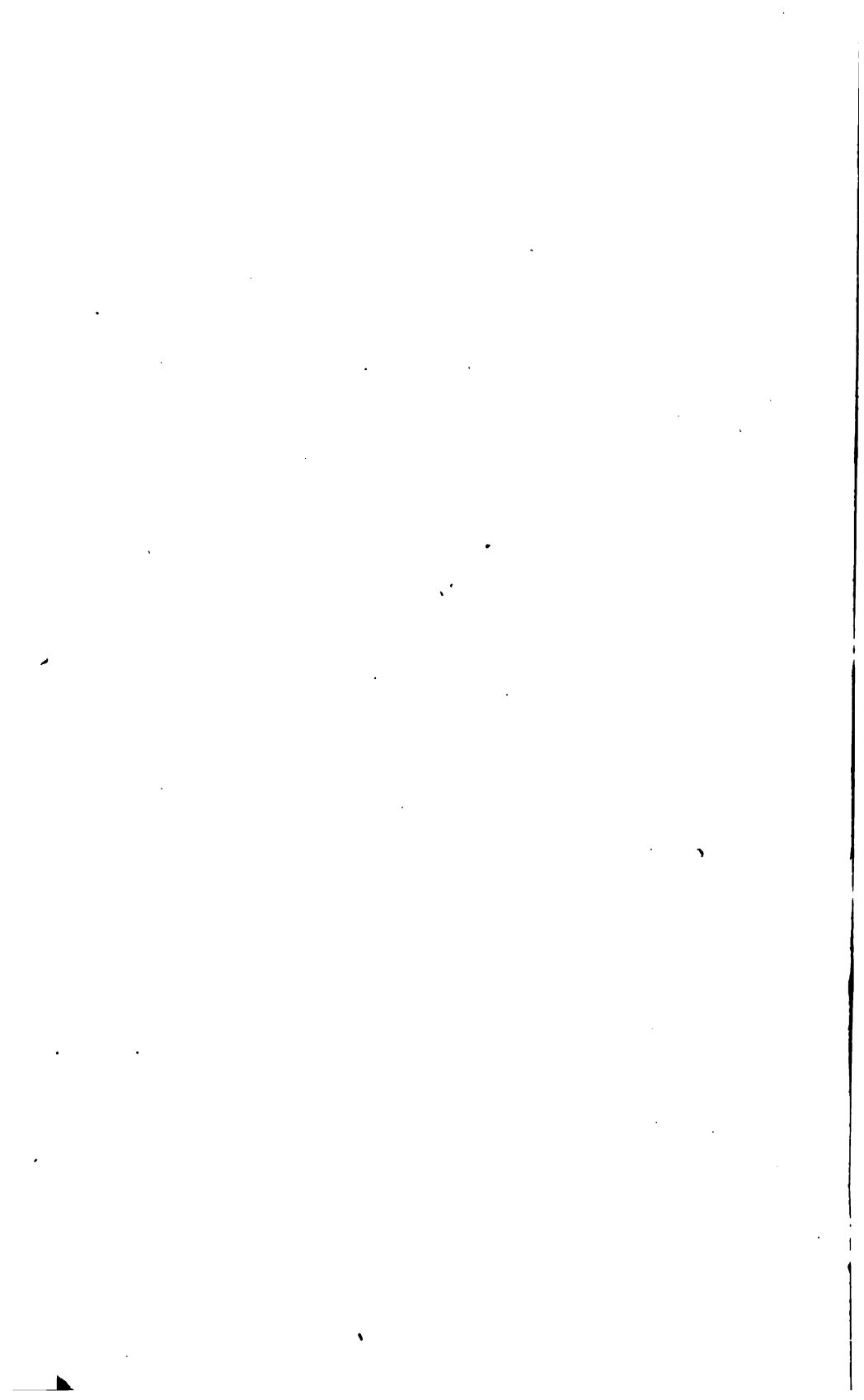
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HEARINGS

BEFORE THE

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COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE

OF THE

U.S. HOUSE OF REPRESENTATIVES

ON

PANAMA CANAL



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PANAMA CANAL.

HEARING BEFORE THE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE OF THE HOUSE OF REPRESENTATIVES.

HOUSE OF REPRESENTATIVES,
Washington, D. C., Tuesday, January 14, 1908.

Present: Messrs. Hepburn (chairman), Wanger, Mann, Lovering, Stevens, Esch, Townsend, Kennedy, Knowland, Hubbard, Adamson, Ryan, Richardson, and Russell.

Also present: Col. George W. Goethals, U. S. Army, and Mr. Joe S. C. Blackburn, members of the Panama Canal Commission.

STATEMENT OF COL. GEORGE W. GOETHALS, U. S. ARMY.

Mr. WANGER (acting chairman). How long have you been engaged on the Isthmus on the work of construction of the canal?

Colonel GOETHALS. Since April 1 last. We arrived on the Isthmus on the 12th of March, and Mr. Stevens transferred the work on the 1st of April.

Mr. WANGER. What condition did you find the work in at that time?

Colonel GOETHALS. The organization for the Culebra Cut was completed. The machinery and steam shovels necessary for that work were on the ground; the work was being prosecuted in moving the material from the Culebra Cut; the fourth steam shovel had just been put at work excavating material from the Gatun lock site; test pits had been sunk to the level of the foundations of the lock walls, so as to disclose the character of the material; and some dredges were under contract for work at the two ends of the canal. The center line of the canal had been located and surveys were in progress for determining the work to be done all along the line. Machine shops were completed and in operation at Gorgona, and the foundations laid for machine shops at Empire and at Paraiso; houses were constructed for about 75 per cent of the American mechanics and higher officials; the Tivoli Hotel built and in operation; hotels for the serving of meals for the employees on the Gold Roll constructed at nearly all the encampments; mess houses for the white laborers, and kitchens for the colored laborers; the commissary department in operation. That is about the condition of affairs so far as the Department of Construction and Engineering is concerned. The civil government was being carried on by the Department of Law and Government.

Mr. WANGER. What was the condition of the Health Department?

Colonel GOETHALS. The Department of Sanitation was well organized and the health conditions good. There was no yellow fever in the Zone and had been none in the Zone for eighteen months at that time. There was very little malaria. The sick report showed that the greatest number of deaths, outside of accidents, occurred from pneumonia.

Mr. WANGER. Now, will you proceed in your own way and give us any information that you think we ought to have and that the public interest would require?

Colonel GOETHALS. The lock-canal project had been adopted in June, 1906. The work, as we found it, had practically been concentrated on Culebra Cut; work just begun at Gatun—the lock site. We concluded after making estimates of the amount of work to be done, that the completion of the canal depended on the date of the completion of the Gatun Dam, and that it was necessary to exert ourselves toward excavating the lock sites and toward completing the spillway so as to enable us to construct the Gatun Dam. The site of the dam had been entirely cleared of timber, except the roots. We concentrated a force for that purpose at Gatun.

The next work of importance was the work at the Pacific end or south end, in connection with the lock and dams there, the dams at Sosa and Corozal being the most important next to those at Gatun. Here also the brush was practically removed.

The survey of the Chagres River Division, extending from the Chagres River near Bas Obispo to deep water in the lakes that will be formed by the Gatun Dam was completed, and because of the liability of the cut in that section of the canal to be drowned out by every freshet in the Chagres River, we considered it advisable to begin work in the excavation of that section of the canal.

So we have organized a force and are to-day working along the entire line from Colon, or from Limon Bay, rather, to the south side.

Because of the questions that have been raised concerning the foundations for the Gatun locks and because we saw that in the Culebra division the geologic formation was constantly changing, we concluded that a more thorough examination of the foundation of the Gatun lock site should be made. With that in view, we started a series of borings with diamond drills as soon as we struck the hard material, and wash borings until we got to the hard material, taking drive samples from the hard material as we proceeded down. From the rough tests made of the strength of the material we concluded that if we had 25 feet of the argillaceous sandstone below the level of the lock foundations we would have ample material to support any structure that would have to be built upon it.

This is the core that is removed by a diamond drill cutting into the rock [exhibiting to committee], and this is a sample that comes out of the center wall at elevation—18.7—an argillaceous sandstone.

We found, as a result of our borings, 65 in all, completed since April 1, taken along the length of each lock wall, argillaceous sandstone—samples of which are here—which is a good, hard material for foundations, extending the entire length of the three locks.

Below this argillaceous sandstone, toward the north end, is a layer of conglomerate rock, a mixture of pebbles cemented together with clay, which is rather softer at the lower end than at the upper end, and below this a soft sandstone. This conglomerate is in the form of rock.

We have bored through this soft sandstone, finding the heavier argillaceous sandstones below the soft sandstone. There is nothing whatever in any of the borings we have made to make us question the safety of the lock foundations or the stability of the locks after they are constructed on the foundations that we find.

The material that they were removing from the lock site when we arrived on the Isthmus was dumped from a side hill into which the dam is to abut when it is completed, on the east side of the dam. The material consisted of clay, with some of the softer argillaceous sandstone and conglomerate rock that is found near the surface, and the rock or bowlders fell to the bottom because of the elevation from which the dumping took place, leaving the clay on top. This was subsequently washed down to remove the rock from the bottom, more with a view to experimenting whether the material would harden if spread out hydraulically. We found that it will to a certain extent.

We also found that the character of the material is such that we could cut steps, after the dumping, so as to get to the top of the dump, and that those steps had remained through the entire wet season without being washed down and without sloughing off, showing conclusively that the material upon which the Gatun dam is founded is impermeable to water, and there is no danger of either seepage or washing.

That is true of the entire stretch of territory that will be occupied by the Gatun dam with the exception, possibly, of the Chagres River, the French canal, and the French diversion channel. We put a dredge in the Chagres River at Gatun and removed the soft mud, and below that we found impermeable material of gravel and sand with some clay.

As far as the Gatun dam is concerned, there is no question in the minds of any of us as to the suitability of the foundation, and the stability of the dam is not questioned or in doubt.

On the south side of the canal, the Pacific end, the project contemplated the construction of two earth dams, one extending from Sosa to Corozal, and the other from San Juan to Sosa Hill, making connection at the latter place with the locks to be constructed at Sosa Hill.

The Board of Engineers that accompanied the Secretary upon his visit to the Isthmus last spring advocated the dumping of material on the bottom lands as they exist, spreading it out so as to form two mounds on the up and down stream sides of the dam, and material to be obtained from the near vicinity to be dumped between these two mounds, the resulting structure constituting the dam.

We began work by building a trestle on the upstream toe of the dam, from which to dump material from the Culebra Cut. After dumping we found that the material did not sink through the soft, oozy material as contemplated, but was carried off sideways, that there was a general lateral movement that disturbed the general line of our trestle, and while it gave us a good deal of trouble as long as we were on the trestle, as soon as we shifted the track from the trestle to the side of the dumps the track gave way, the material beneath it falling away 16 to 20 feet during the night without load on it, huge waves of material forming on every side of this embankment and gradually moving in both directions away from the central embankment, carrying the central embankment down with it, until the cross section showed that we had three waves, the crests of which were practically on a level.

We dug through this at right angles and found the material instead of sinking to the bottom, as we anticipated, would be carried off sideways, and remained practically on the top of this oozy material.

The original borings, which were wash borings only, were recorded as stiff clay. Subsequent boring developed the existence of blue clay instead, and we concluded that would not do for dam foundations, and that the only suitable way for constructing the dam would be the removal of this material down to rock, or to get sufficient material dumped in to entirely replace everything above the rock. We begun examinations for a new lock site, and since I have been here the President has approved a change in the location of the locks to Miraflores.

Mr. ESCH. That is how far up?

Colonel GOETHALS. About 4 miles. That would make the locks about 4 miles from the south end.

Mr. STEVENS. And what will be the dimensions of the lake formed by that?

Colonel GOETHALS. About 2 square miles only. We lose the advantage of the Sosa Lake, but we gain the advantage of having the locks well protected against hostile fire. We have the advantage of comparatively low dams, and the locks are founded on as good material as we get at Gatun.

Mr. KNOWLAND. The Sosa Lake was about 5 miles——

Colonel GOETHALS. I think it is 6 miles and a fraction.

Mr. KNOWLAND. I mean in length.

Colonel GOETHALS. Yes, sir. Approximately 5 miles, plus the mile and a half or 2 miles between Pedro Miguel and Miraflores, making 6 miles and a fraction.

Mr. STEVENS. Do you anticipate any trouble on account of the tidal action?

Colonel GOETHALS. No; we will make the channel uniform in cross section. I do not remember just what the tidal current is, but I have it here in my papers. I think it is 1 foot a second. We figured that out. I do not want to be understood as saying that the dam as originally projected by the Board could not be built. It could be built, but it could not be built in a way that the Board advocated, except at great cost in time and money.

Mr. MANN. As I remember, the only reason that the Board located the dam right at Sosa Hill was purely a matter of expense. They did not say that was the best place?

Colonel GOETHALS. No; it was a matter of expense, and it was also a matter of getting the advantage of that lake for lake navigation, which is a very desirable thing, rather than a narrow channel for navigation.

Mr. WANGER. How wide do you propose to make that channel?

Colonel GOETHALS. Five hundred feet.

Mr. MANN. That is from Miraflores down?

Colonel GOETHALS. From Miraflores to the sea; yes.

Mr. STEVENS. It seems to me that with a tidal fall of 20 feet in a straight channel of that kind there would be some trouble in navigating it.

Colonel GOETHALS. No; the rise of the tide is gradual. One foot a second is the velocity. The difficulty would be if we had a wider basin behind the entrance, in which case the tide would tend to flow out as soon as it passed the opening, making a strong current at the entrance, but where the opening is uniform we do not get such a strong current.

Mr. WANGER. How much of that will be of the soft material?

Colonel GOETHALS. Thirteen million seven hundred and sixty thousand five hundred yards of earth and 1,509,800 yards of rock.

Mr. WANGER. What will be the depth of the channel?

Colonel GOETHALS. The depth of the channel will be 45 feet at mean tide.

Mr. ESCH. What will be the lift of the tidal locks at Miraflores?

Colonel GOETHALS. We have two locks to overcome a difference of 55 feet at mean tide.

Mr. KNOWLAND. Under the old plan there were two there.

Colonel GOETHALS. Yes; the same lift that we had before under the old plan.

Mr. TOWNSEND. Is there any material between the soft sandstone you speak about and the harder substance at the Gatun base?

Colonel GOETHALS. No; there is nothing but a layer of conglomerate below the hard argillaceous sandstone. Then below that there is a layer of soft sandstone, and below this another layer of the same consistency as the upper layer.

Mr. MANN. You made borings for examination as to the foundation of the dams and locks at Miraflores?

Colonel GOETHALS. Yes.

Mr. MANN. What was the character of the material there?

Colonel GOETHALS. The character of the material at Miraflores is partly trap and partly the argillaceous sandstone, but to some extent of a harder variety than we get at Gatun.

Mr. MANN. Is there any question about the sufficiency of the foundation of the dam and locks at Miraflores?

Colonel GOETHALS. No, sir; and in that case we have gone down, as we have in the other, in our borings, to at least 25 feet below the level of the foundation of the lock walls.

Mr. KNOWLAND. Are the foundations any better here than at Gatun?

Colonel GOETHALS. We think the rock is a little harder, but it is the same character of material.

Mr. ESCH. A year ago, when Mr. Stevens was before the committee, he presented a cross section of the river at Gatun, at the site of the proposed dam. That showed that in two places you had to go to a depth of 262 and 268 feet, I think, respectively, to get down to this rock or clay.

Colonel GOETHALS. We are not going to that depth. We are only going far enough to get to the impermeable material.

Mr. ESCH. Then you do not have to fill up those great depths in order to prevent seepage below?

Colonel GOETHALS. No; we are going to put in sheet piling as an additional protection there, but we do not think that is really necessary.

Mr. MANN. Are you able to tell, at this time, definitely, the adopted method of the construction of the dams, or is that still an open question?

Colonel GOETHALS. That is still under discussion as to some parts of it. We have decided to change the cross section of the dam from that originally proposed by the consulting board, and that was done after consultation with the three engineers that accompanied the Secretary of War to the Isthmus last April.

Mr. MANN. Who were those engineers?

Colonel GOETHALS. Mr. Frederick P. Stearns, of Boston; Mr. Alfred Noble, of New York, and Mr. John R. Freeman, of Rhode Island. It is purposed to build, on the up and down stream toes, rock piles up to an elevation of 30 feet above mean tide, making the rock pile on the upstream side 50 feet wide at least, make a good spillway, and if we have extra material to dump we will dump it there and broaden that. The same method of construction will be followed on the north side of the dam.

On the upstream side the slope is to be made one on five from this rock pile, instead of one on three, as advocated by the Board, to a reference of 105. That will be 20 feet above the normal level in the lake. Above that the slope will be one on three, and the dam at the top will be 80 feet wide. It then goes down with a slope of one on three, and about 85 feet elevation on mean tide, and from there to the outer toe the slope will be one on twenty-five.

Mr. MANN. That is, downstream?

Colonel GOETHALS. That is the downstream slope. In that respect the construction of the dam has been changed.

Mr. MANN. That will make it about how wide at the base, approximately?

Colonel GOETHALS. About half a mile wide at the base. We have not changed the width much. That width is too great, but as the original board adopted it, any suggested change might bring up discussion, and so we did not think it wise to make any change.

Mr. ESCH. Do you put in the bulk of the material at the dam by pumping?

Colonel GOETHALS. Not all of it. We are going to make the central part, near the upstream face, of puddled material, and we are going to pack it or roll it, and outside of that we will fill in with pumped material.

Mr. ESCH. Where do you get the pumped material—from the lake?

Colonel GOETHALS. From the vicinity, probably below the dam.

Mr. ESCH. Below the dam?

Colonel GOETHALS. That is, on the south side—the Limon Bay end of it. We made that change because in the discussions that have followed the slumping off of the Wachusett dam, questions have been raised as to the pumped material settling in the same proportion and in the same form of mixture in which it is introduced.

Mr. MANN. I wish you would explain a little more fully the method of constructing the core of that dam.

Colonel GOETHALS. Well, that is one of the details that we have not entirely worked out.

Mr. MANN. I understand that.

Colonel GOETHALS. We are going to make a wedged-shape cut through the actual surface of the ground, get the proper proportion of gravel, sand, and clay and dump it in very carefully, and then by shifting the track back and forth will cause the packing and then carry it up in that way. The width of the core is to depend on the quantity of suitable material we can find in the vicinity of the dam.

Mr. MANN. How do you puddle that?

Colonel GOETHALS. Water. Just dampen it. We will have enough water in the rainy season without any additional water being added.

Mr. MANN. And that makes it a material practically impervious to water?

Colonel GOETHALS. Yes; that clay there on the ground is absolutely water-tight.

Mr. MANN. You mean that which you pump down on the side of the railroad there?

Colonel GOETHALS. That will be, if it ever hardens.

Mr. MANN. Will it ever harden?

Colonel GOETHALS. I think it will after the sun gets on it. We get a mixture of sand and gravel with it, and it will be hardened.

Mr. MANN. That clay has no grit in it at all?

Colonel GOETHALS. No grit in it at all; no.

Mr. MANN. And you propose to mix enough grit in it so it will not slip?

Colonel GOETHALS. Yes.

Mr. MANN. And then puddle until it is impervious, and water will not saturate through it?

Colonel GOETHALS. Water can not get through it; no.

Mr. ESCH. With a slope of one and five you would not duplicate the experience of the Wachusett dam, would you?

Colonel GOETHALS. No; but we would not duplicate what happened at the Wachusett dam even if we had the same slope.

Mr. MANN. You visited the Wachusett dam?

Colonel GOETHALS. Yes; I went with Mr. Stearns. The cause of the slide there was because of a layer of muck. The slide occurred in that portion of the dam, in a depression, and they had a layer of this soft, mucky material; they didn't take it out, they didn't think it was necessary, they thought it would be squashed out, and then the material was loosely dumped from trestles without packing, and the result was that muck, acting as a greased surface, took the whole thing out, with the weight on top.

Mr. LOVERING. How can you puddle clay.

Colonel GOETHALS. We do not puddle clay.

Mr. LOVERING. It must be a very small proportion of clay there.

Colonel GOETHALS. Yes. We are making experiments now to determine what will be the best mixture.

Mr. MANN. Will you tell us, if you are through with that, the present organization of the work of the Commission?

Colonel GOETHALS. There are seven Commissioners. Four of us are engineers from the Army or Navy; three being from the Army and one from the Navy. One is from the Medical Department, and there are two civilians. The engineers are assigned in charge of engineer work. Major Gaillard, the next in rank to myself, is in charge of excavation and dredging. Major Sibert is in charge of locks and dams. Mr. Rousseau, of the Navy, is in charge of municipal engineering, motive power and machinery, and building construction.

The work under Major Gaillard is divided into divisions consisting of the Culebra division, the Chagres division, the Colon dredging division, and the La Boca dredging division, each in charge of a division engineer. The Culebra division is divided into four districts, each approximately $2\frac{1}{2}$ miles long, with a possibility of the organization of a fifth district, each in charge of a superintendent of construction. The superintendents have supervision over general foremen, yardmasters, and they are supervisors of steam shovels, who look after the steam shovels. The superintendents also have

charge of all trains in their districts. The work on the Chagres division is not in such shape at present to warrant a subdivision into districts.

The Colon dredging division and the La Boca dredging division are in charge of engineers who have supervision over the dredgers in each of the divisions.

At present Major Sibert's department is divided into the Gatun lock division and the Gatun dam division; and, on the Pacific side, into the Pacific lock and dam division. I consolidated the latter into one division since the change in the location of the locks, and am seriously thinking of consolidating the locks and dams at Gatun under one head. It reduces administration. That is the main thing.

Mr. Rousseau's department has charge of all the shops—the machine shops at Gorgona, Empire, and Paraiso.

The building and construction division has charge of the building and construction of houses.

Each of those is in charge of a division head.

Municipal engineering is in charge of an engineer looking after the construction of roads, trails, waterworks, reservoirs, etc.

The procuring of labor, the subsisting of the men and providing quarters is assigned to the charge of Mr. Jackson Smith.

Mr. MANN. He is a Commissioner?

Colonel GOETHALS. He is a Commissioner. Senator Blackburn has charge of the administration of civil government of the zone, and is also a Commissioner. Under him come the police department; supervision of the courts and schools; water supply for Panama and Colon; postal service; the collection of customs; and also fire department.

Colonel Gorgas has charge of sanitation and the health department, including quarantine.

That is a general subdivision of the organization.

Mr. MANN. In what condition is the work now; are you satisfied with the progress of the work there?

Colonel GOETHALS. Yes; more than satisfied. We are doing more work than we expected. Every month we have done more work than we expected we would do for that month.

Mr. MANN. I suppose you were naturally very much afraid of the result of the rainy season on your work, as most everyone has been?

Colonel GOETHALS. Yes.

Mr. MANN. You have been through a rainy season down there now?

Colonel GOETHALS. Yes. The difficulty with the rainy season is in our transportation department and the dumps. During the dry seasons the shovels can work much more easily in the upper levels, removing a larger percentage of earth than of rock, and at the beginning of the wet season the rains saturate the dumps composed principally of earth and the tracks sink and get out of level, causing derailment of trains, delaying transportation. That has been our principal difficulty. We hope during this wet season to so arrange the cutting as to give a proportionate amount of rock with the earth, and reduce the difficulties during the next wet season.

During the heavy showers work has to stop altogether; even the steam shovels have to lay off. Then in the Chagres division the next wet season we will probably have difficulty from floods in the Chagres getting into the cuttings and stopping the work.

Mr. MANN. Have you made any computation at all as to how long it will take to finish the excavation of the Culebra cut at the rate of progress you are making now, and any increase that may be reasonably anticipated by new installation of machinery?

Colonel GOETHALS. We figured we could finish the Culebra cut easily in between four and five years. As we get deeper into the cut the number of shovels and trains we can utilize will be diminished.

Mr. MANN. Have you reached the maximum of installation yet?

Colonel GOETHALS. We have not as far as the physical conditions are concerned, but we have as far as the shovels and cars we are going to put into the work are concerned. We do not expect to increase the number of shovels beyond 45.

Mr. MANN. In the Culebra Cut?

Colonel GOETHALS. In the Culebra Cut.

Mr. MANN. When I was there recently you were expecting a lot of new shovels.

Colonel GOETHALS. We are going to put those to work in other sections.

Mr. MANN. Have you received them yet?

Colonel GOETHALS. Not yet. We are going to put those to work on the Chagres division. We have to increase the number of shovels in the lock pits and in the spillway. We want to finish the spillway by next January and we want to finish the excavation of the lock sites at Gatun and Miraflores, so that we can begin laying concrete in January, 1909.

Mr. MANN. Do you expect the excavation in Lake Gatun will be mostly wet or dry excavation?

Colonel GOETHALS. We expect most of it will be wet.

Mr. MANN. You will have to wait until the lake is there before you do most of that work?

Colonel GOETHALS. The greater part of it. We can remove rock much more economically in the dry than in the wet. We are going to remove all of that we can and then shoot up the rest.

Mr. ESCH. You scalp the channel of all trees and vegetable matter?

Colonel GOETHALS. Yes; the channel will be clear of timber.

Mr. ESCH. And that will have to be excavated?

Colonel GOETHALS. From Bohio, on the south, will have to be excavated and on until we strike the Culebra Cut.

Mr. MANN. How soon do you think you will be able to turn water into Gatun?

Colonel GOETHALS. We have not estimated that.

Mr. MANN. You do not expect to finish the locks and dams before you turn any water in there?

Colonel GOETHALS. No; we will turn it in as soon as we can get it in. There are places now in the Chagres division where we could work dredges to advantage.

Mr. MANN. As soon as you can get the upper locks finished and the walls finished and the dam so that it will hold water up to a certain height, you can turn water in, providing you have your spillway in proper shape?

Colonel GOETHALS. Yes.

Mr. MANN. That is the calculation?

Colonel GOETHALS. Yes.

Mr. MANN. I figured it with Major Sibert, when I was there, that they might get water in there in two or three years. Of course that was purely tentative.

Mr. TOWNSEND. How many men have you there in the employment of the Government now?

Colonel GOETHALS. In the vicinity of 35,000.

Mr. MANN. That is, on the rolls?

Colonel GOETHALS. Yes; on the rolls.

Mr. MANN. But on the two rolls of the Isthmian Canal Commission and the railroad, names on the rolls, you have over 40,000; but they are not all at work, are they?

Colonel GOETHALS. No, sir; they are not all at work and the names on the pay rolls do not give you a good idea of the number of men at work, because a man may be on the pay roll three or four times during the month. He will be on one division and then quit work there, and perhaps go to work on another division, and so he will have his name on both pay rolls.

Mr. TOWNSEND. That was what I was trying to get at. Do you have much trouble in getting common labor now?

Colonel GOETHALS. We have not any trouble now. We are getting more labor than we can use.

Mr. TOWNSEND. Have you any Americans there as common laborers?

Colonel GOETHALS. No. We have a few negroes that are helpers in machine shops. They were brought down by machinists from the North. We have no common laborers that are Americans.

Mr. TOWNSEND. As I understand, from what you said in your introductory remarks, you have kitchens for taking care of the colored people?

Colonel GOETHALS. Yes.

Mr. TOWNSEND. Where do you house those people.

Colonel GOETHALS. In regular barracks constructed for them. In those barracks there are bunks; three, one above the other. They are arranged in rows.

Mr. MANN. When you come to it, will you please give us an idea of the commissary arrangements, about feeding and housing. I would like to have a complete statement of that. What do you provide, and how do you provide it?

Colonel GOETHALS. We provide quarters for the employees of the gold roll.

Mr. TOWNSEND. What do you mean by the gold roll?

Colonel GOETHALS. Those are the Americans or people not accustomed to tropical climate. We pay them in gold. We have been in the habit of paying in silver all the West Indian laborers and all the foreign laborers. Being on the gold roll carries with it certain privileges and advantages.

Mr. TOWNSEND. Does that include the Spaniards?

Colonel GOETHALS. They are on the silver roll, and the negroes are on the silver roll.

Mr. TOWNSEND. Do you have any complications in reference to that?

Colonel GOETHALS. No. We have commenced to pay the Spaniards and the Italians in gold now. When we reached there they were being paid twice a month, and that lost us practically four working

days every month—the day they were paid and the day after they were paid. So we concluded to pay them once a month and try to get two additional days of work out of those laborers. The Italians and Spaniards were in this respect practically under contract, as their agreements provided that they should be paid twice a month. They agreed to let us pay them only once a month if we would pay them in gold. So we are paying them in gold now, but we still consider them as on the silver rolls.

MR. TOWNSEND. What is your average wage there for the common laborer?

Colonel GOETHALS. Thirteen and one-half cents an hour for the colored laborer, if the Government subsists him.

MR. TOWNSEND. Is that silver?

Colonel GOETHALS. That is silver.

MR. MANN. That is in addition to subsistence?

Colonel GOETHALS. That is in addition to subsistence; 20 to 26 cents is the rate if a man subsists himself, and it varies up to 32 cents for the colored laborer. The foreign laborers we pay 40 cents an hour, and they subsist themselves.

MR. KNOWLAND. That is in silver, is it?

Colonel GOETHALS. Yes.

MR. KNOWLAND. Just half what our basis would be?

Colonel GOETHALS. Yes, 50 per cent less.

MR. RUSSELL. How many hours do the men work?

Colonel GOETHALS. Nine and one-half hours.

MR. ESCH. That includes housing?

Colonel GOETHALS. That includes the barracks. They have a place in the barracks, and some of the Spanish laborers have brought their families with them, and these are given a room in a barrack building, where they can live with their families.

Now, to go back to the privileges that are accorded. Bachelors on the gold roll, employees upon a monthly basis or on an hourly basis, are provided with a bed in a room. Bachelor buildings are provided having from 16 to 48 rooms, and two to four men are put in a room. Married men are provided with married quarters. The size of the quarters is apportioned to the size of the pay that the men receive. The houses we have on the Isthmus are arranged to accommodate four families in a house, two families in a house, and a single house to a family. We provide them with furniture, exclusive of linen, bed and table, and china, and cooking utensils. We also provide them with fuel for cooking purposes and with electric lights where we have them. Hotels are provided at the large settlements for feeding the gold employees, and meals are served at the rate of 30 cents each.

MR. ESCH. Gold?

Colonel GOETHALS. Gold.

MR. ESCH. Is there a hotel at Gatun?

Colonel GOETHALS. Yes; there is one built there.

MR. TOWNSEND. The gold employee pays the 30 cents?

Colonel GOETHALS. Yes.

MR. HUBBARD. Do the Spaniards and Italians have these privileges?

Colonel GOETHALS. The Spaniards and Italians are laborers. They are provided with a bunk in a barracks, and they are permitted

to subsist themselves or obtain subsistence at a mess house at the rate of 40 cents a day gold. There are 18 mess houses.

Mr. TOWNSEND. Is there any supervision of the food that they use when they subsist themselves?

Colonel GOETHALS. No. We do not interfere with the white laborer—

Mr. TOWNSEND. Is the health of the employee who subsists himself as good as the health of the fellow who is subsisted by the Government?

Colonel GOETHALS. Yes; it is. The Government subsists all the colored labor. The white labor takes care of itself. The Spaniard and the Italian get enough to eat—

Mr. ADAMSON. Those who subsist themselves obtain their supplies from your commissariat?

Colonel GOETHALS. As a rule. They do not obtain all in the way of meats, because we can not supply it.

Mr. RYAN. Where do they get it?

Colonel GOETHALS. They buy it from the markets. There are markets scattered throughout the Zone.

Mr. RYAN. And those markets are under the supervision of the Commission?

Colonel GOETHALS. Yes. The white labor utilizes the mess houses as sort of clubrooms at nights. They can go there and sit around and read and write letters and do things of that kind. They sit down to their meals at rough board tables, and the table furniture is granite ware, plates and cups. The 40 cents a day include wine on Sundays and holidays for the Italians and Spaniards. That is cheap Italian wine.

Mr. ESCH. What can you say as to the efficiency of the Spanish and Italian labor?

Colonel GOETHALS. It is estimated that one Spaniard is equal to two negroes, but I do not know that that ratio is keeping up, owing to the fact that we are feeding the colored man, and he is becoming more efficient as a laborer, and the whites coming in contact with the negro are becoming less efficient. So they are merging toward each other.

Mr. RUSSELL. Why is that?

Colonel GOETHALS. I do not know. The white man sees the negro does not do as much and he falls off in the amount of work that he does, and we are trying to keep them separate now, so that the white men will work by themselves and the negroes will work by themselves. The colored man is provided with a bunk in a barrack, similar in construction to that for the white labor, a kitchen provided for every colored encampment where the food is prepared and where the negro goes and gets it with his own plate and cup and carries it off and eats it where he will.

For the colored labor the Government furnishes subsistence, and at the close of the day's work every laborer is furnished with a ticket which entitled him to three meals, and it is this ticket that entitles him to draw his supply of food from the kitchen.

These houses that I spoke of for gold employees are congregated into settlements and are provided with water, sewer systems, sidewalks, and roads.

Mr. MANN. And they are frequently inspected?

Colonel GOETHALS. The buildings? Very seldom.

Mr. RYAN. What sized families do the smaller of those apartments provide for?

Colonel GOETHALS. A sitting room and two bedrooms and a dining room; four rooms altogether, including the kitchen. They can make a dining room on the porch, as the porches are all inclosed with netting. The hotels and the kitchens and the messes and the barracks and the bachelor buildings are all inspected, the messes and hotels being inspected by the Medical Department as well as by a regular designated inspector of the Department of Labor, Quarters, and Subsistence; the others by the official of the Department of Labor, Quarters, and Subsistence.

Mr. TOWNSEND. They are supplied with the water furnished by the Commission?

Colonel GOETHALS. Yes; all supplied with water. Shower baths are attached to each barrack building or connected with each barrack building, so that the laborers are furnished with shower baths.

Mr. TOWNSEND. Could you tell me, in further answer, as to how many employees there are—how many of them of that 35,000 are common laborers?

Colonel GOETHALS. I should say about 22,000 or 23,000.

Mr. TOWNSEND. What proportion of those are on the gold roll?

Colonel GOETHALS. None of those are on the gold roll. We did not consider them on the gold roll, even though we are paying the Spaniards and Italians in gold.

Mr. TOWNSEND. What proportion of Spaniards and Italians—what proportion of the common laborers—are on the gold roll?

Colonel GOETHALS. About 6,000.

Mr. KNOWLAND. Are they still coming in?

Colonel GOETHALS. No; we have stopped immigration. We have all the labor there now that we want, and we have stopped our agents sending any more in.

Mr. KNOWLAND. In case the colored laborers cease work, do you fill their places with Spaniards or colored labor?

Colonel GOETHALS. The colored labor is constantly coming in from the islands, and we take them up as we want them. Otherwise they loaf around and do not do anything. There are a number there not working at all.

Mr. KNOWLAND. I understood when I was down there that it was your intention to gradually supplant the colored labor with Italian and Spanish labor, inasmuch as the latter were more efficient workers.

Colonel GOETHALS. No; I do not think we will do that—not entirely.

Mr. ESCH. Do you have strict control over labor, as to hours and so on?

Colonel GOETHALS. Yes; eight hours work for the American; nine and a half hours' work for the ordinary labor, with the proviso in one of the acts of Congress that requires the foreman in charge of alien labor to work the same number of hours as the aliens.

Mr. TOWNSEND. I understood you to say some of them are under contract.

Colonel GOETHALS. We make what we regard as a contract with them before they leave Europe, stipulating that we will pay their passage over and they are to refund a certain amount each month toward the payment of their transportation.

Mr. HUBBARD. Is that made to them individually?

Colonel GOETHALS. That is made with them individually. And then it stipulates certain conditions that the United States will observe; and in this question of monthly payments, I consider that the Government was bound to pay them twice a month unless we made an agreement with them to change it to a monthly rate. As I said, we changed the agreement, with their consent, so as to pay them once a month. They are accustomed to receiving their pay twice a month, I understand. So I made this arrangement with them to pay them once a month. There is a good deal of feeling against the work on the Isthmus, as expressed by the Spanish papers, and we do not care to take advantage of them because we have got them over here. So I made this agreement with them to pay them only once a month, and because they are paid in gold, that is entirely satisfactory to them.

Mr. LOVERING. Does twice a month mean fortnightly?

Colonel GOETHALS. Yes; that is, we pay them every fifteen days. I should say we did pay them every fifteen days. We now pay them once a month.

Mr. MANN. When did you commence paying them once a month?

Colonel GOETHALS. In November, for the month of October. That change has given us two additional days' work every month; it has reduced the clerical work also from \$30,000 to \$40,000 a year, and it has also given us a more stable force.

Mr. MANN. Then it works very satisfactorily, so far as the construction work is concerned?

Colonel GOETHALS. Very satisfactorily.

Mr. MANN. But it is not satisfactory to the Panamanian merchant?

Colonel GOETHALS. No, sir.

Mr. ESCH. Yet there was less excavation done in November than there was in October, and less rainfall; is not that a fact?

Colonel GOETHALS. That is true. If you will remember, we had the "Fourth of July of Panama," which occurred on the 3d of November, and which necessitated a holiday. We also had five Sundays in the month, which cut us out of an extra day in that month, and besides that we had Thanksgiving Day.

Mr. MANN. And you had King Edward's birthday.

Colonel GOETHALS. But, notwithstanding all those holidays, if the work had been prorated it would be found that the daily output was greater for the month of November than for any other month. The greater number of holidays cut down our total output.

Mr. MANN. And then you had a delegation from the House of Representatives here.

Colonel GOETHALS. That did not interrupt us.

Mr. MANN. And that was something, I suppose, that would create consternation for a week at least. Then you had the Culebra slide that affected you.

Colonel GOETHALS. Yes; that did.

Mr. MANN. That affected you while we were there.

Colonel GOETHALS. Yes. We have a double track now, and everything is running through the cut.

Mr. MANN. Does that slide cause any anxiety now?

Colonel GOETHALS. No. We will work to get it all out.

Mr. MANN. Are you afraid of any other slides along there?

Colonel GOETHALS. No, sir. The geologists report a possible slide at Contractors Hill. We have seen no indications of that as yet. We have had two slides—one on either side of Gold Hill—that worried us a little, but they are gone.

Mr. MANN. You have no fear of any general sliding in of the base?

Colonel GOETHALS. No.

Mr. TOWNSEND. Are you satisfied that the lock system is the proper system for the construction of the canal?

Colonel GOETHALS. There is no doubt about it. I was for a sea-level canal at first, and I changed my mind, and, like a convert, I have gone to the other extreme.

Mr. TOWNSEND. Is the Commission unanimous?

Colonel GOETHALS. Yes; the engineer commissioners are unanimous; I don't know that I have discussed it with the others.

Mr. WANGER. You think a level of about 85 feet is best?

Colonel GOETHALS. We have about the best type of canal down there that is possible to have; that is my opinion.

Mr. ESCH. Will the slope in the Culebra Cut be such as to reduce the slides to a minimum?

Colonel GOETHALS. We hope to give the upper portion sufficient slope to prevent slides, and the lower part will be in rock and there will be no danger of slides there, unless we find some layer of soft material as we go down. That is what caused the slide on the south side of Gold Hill. We went through rock and then we struck a layer of this soft material and it brought down material that was above it. We do not know of the conditions that we are going to strike as we go down, because the geological formation changes.

Mr. ESCH. You think the rock will stand up?

Colonel GOETHALS. The rock will stand up, yes; there is no question about that.

Mr. KNOWLAND. Did I understand you to say that during the rainy season, at least during the heavy showers, you are unable to work any in the Culebra Cut?

Colonel GOETHALS. Yes, sir.

Mr. KNOWLAND. Does that mean a general rain or an extra heavy shower?

Colonel GOETHALS. Our rains are very heavy showers; they last an hour or two, and then we have to lay off.

Mr. KNOWLAND. There is no steady rain day after day?

Colonel GOETHALS. No; very little of that.

Mr. KNOWLAND. Not even during the rainy season?

Colonel GOETHALS. No; when the rain does last all day it is a slow rain and it does not interfere so much.

Mr. KNOWLAND. Can not the steam shovels work then; the men are protected, are they not?

Colonel GOETHALS. No, not altogether. The cranesman is out in the wet, and he can not stand it.

Mr. MANN. The men get paid just the same, do they not?

Colonel GOETHALS. The monthly men get paid just the same, but the men that work by the hour do not get paid.

Mr. MANN. If they stop for an hour, do they not get paid?

Colonel GOETHALS. That was the rule formerly. The Spaniards knew that rule, and as a result, if it rained half an hour, they would

refuse to go to work until they got the hour. So we changed that rule, and now the men are paid for the time they work, and not for the time they lose.

Mr. MANN. I know that that was the case, as I have suggested, when I was down there.

Colonel GOETHALS. Yes. We had two or three cases of that kind while you was there, where the Spaniards refused to go to work until the hour was up.

Mr. WANGER. Does the shower prevent the dredging from going on?

Colonel GOETHALS. No, not at all. I had in mind Culebra cut. Nothing stops our dredges except the wind.

Mr. ADAMSON. As it is now, you simply dock a man for the time he loses, whether it is on account of rain, or what is it?

Colonel GOETHALS. Yes, sir.

We drill and blast through the night, so as to keep ahead of our steam shovels in the cut. We work Sundays and nearly all the time at some part of the line.

Mr. MANN. That is, a part of the force works Sundays and nights?

Colonel GOETHALS. That is what I mean; yes. When we work on Sundays we select our gangs so as to take men who have not worked on the previous Sunday, and at night, of course, we have men working who did not work during the day.

Mr. TOWNSEND. As I understand it, you have about the force now that you expect to have down there during the continuance of the work and until the completion of the canal.

Colonel GOETHALS. Probably so. We will increase the force some at Miraflores and at Gatun.

Mr. TOWNSEND. And you will reduce somewhat at Culebra?

Colonel GOETHALS. Yes; we will.

Mr. ESCH. Referring to the health of the men—are the men required to observe sanitary rules and regulations?

Colonel GOETHALS. We can not force them to do it to any extent. The doctors prescribe quinine to be taken daily by all the laborers, and we have quinine dispensers that go around and give doses of liquid quinine to the men, but it is hard to force them to take it if they refuse or object to take it. It is hard to get them to bathe regularly also, and to change their clothes, as they should do, after getting wet.

Mr. ESCH. How about vaccination?

Colonel GOETHALS. They are vaccinated before they arrive in the Zone.

Mr. KNOWLAND. You have not had any yellow fever since May, 1906, have you?

Colonel GOETHALS. No; we have had no yellow fever and no smallpox. We have had some cases of smallpox at Colon during the last fiscal year, but it did not spread.

Mr. TOWNSEND. This prevalence of pneumonia is largely due to the fact that the laborers get wet in the rains and stay out in the rains, without getting dry.

Colonel GOETHALS. Yes; that is true, and also the fact that they were not properly nourished. The feeding of the laborer by the Government has nourished him better, and as a result pneumonia is not so prevalent this year as it was before.

Mr. ESCH. Then if their food supply is better there ought to be no complaint.

Colonel GOETHALS. Their food supply is better, but of course there is always complaint about the food.

Mr. TOWNSEND. What are your arrangements for supplying food?

Colonel GOETHALS. We have a commissary department run by the Panama Railroad, which deals in almost everything a man wants to eat or wear. We have a baker who turns out almost all the bread, and we have added an extension for baking pies and cakes. We have a cold-storage plant for the keeping of beef and vegetables and the making of ice. Requisitions are sent to the commissary the day before they are required. The commissary supplies this cold-storage stuff—ice, vegetables, canned goods, and commissary supplies that are needed—from Colon, and at all of the larger settlements we have a branch commissary which keeps canned goods and some of the necessities, so people can go there and buy them.

Every morning at half-past 4 a supply train goes out, consisting of a certain number of box cars and a certain number of refrigerator cars, to take refrigerator stuff, and that train goes along and distributes stuff at the various stations. It is met at the various stations by wagons belonging to the Department of Labor, Quarters, and Subsistence, and carted around to the houses, to the mess buildings, and hotels.

Mr. TOWNSEND. Do you aim to make a profit on anything that is sold to the individual?

Colonel GOETHALS. The Panama Railroad owns the commissary and we figure out that the Panama Railroad ought to be reimbursed for its expenditures for these buildings. Their fund is divided into ten annual payments. It is to be paid for in ten years, and we are paying 3 per cent interest on the investment. That is the only profit outside of what is necessary to pay the regular running expenses. The commissary charges about 20 per cent on the cost price at Colon.

Mr. RICHARDSON. The Panama Railroad is not under the jurisdiction of the Commission, as I understand, but under a board of directors?

Colonel GOETHALS. Yes; but the board of directors of the railroad are all members of the Commission.

Mr. RICHARDSON. And how about the steamship company?

Colonel GOETHALS. And we have jurisdiction over the steamship company in the same way. I am president of the railroad and of the steamship company.

Mr. RICHARDSON. Can you control the freight charged by the steamers?

Colonel GOETHALS. The character of the freight?

Mr. RICHARDSON. The charges, I mean.

Colonel GOETHALS. Oh, yes; we can control that through the board of directors.

Mr. MANN. You have just as much control over the Panama Railroad Company as you have over the canal?

Colonel GOETHALS. Exactly.

The CHAIRMAN. What is the reason for keeping those two separate—the canal work proper and the railroad and steamship companies?

Colonel GOETHALS. Well, the railroad is in a commercial business, and it must be in a commercial business as long as it has the line of transportation across that Isthmus, and as long as it is in that commercial business it ought to be cut loose entirely from the Commission. We ought not to have it as a Government road.

The CHAIRMAN. Well, is there any plan that might be adopted which in your judgment would be better?

Colonel GOETHALS. I think the present arrangement is working very satisfactorily and ought not to be disturbed.

Mr. ESCH. A new series of questions might be asked with reference to the cost of construction. I don't know whether you care to give any figures in regard to that.

Colonel GOETHALS. I am not prepared to make a very accurate statement of the cost of construction. We found when we went there that the Culebra division work was costing at the rate of 75 cents to 80 cents a yard. We looked into those figures. The accounting system specified a certain definite number of headings to be observed for classification of expenditures, and we were anxious to find out what the work had cost up to the time of our taking hold, and at the same time get some notion of whether savings could be effected. So I took it up with the disbursing officer and the auditor, and the latter officer sent me this tabulated statement of expenditures, which meant nothing to me and which Mr. Stevens said was a Chinese puzzle to him.

Mr. ESCH. In other words, you can not determine the unit of cost.

Colonel GOETHALS. No. So we started on our own account on July 1 to keep an engineering cost account, and we are figuring backwards, but the disbursing officer has not his accounts in such shape yet as to enable us to keep our costs up to date. Our excavation for October, exclusive of arbitrary, was in the vicinity of 85 cents in the Culebra division. At Gatun it was in the neighborhood of 60 cents. For November, on account of the Cucuracha slide, and the work night and day, the cost went up to 90 cents. We are getting that cost keeping in shape. I found that in the old Culebra division they failed to take account the cost of operating the compressed-air plant, and they also failed to take proper account of repairs. So there was a discrepancy between their account and ours, and that made ours higher. But as we were removing a greater number of yards with the same force, our cost, of course, ought to be less.

When we can get the disbursing officer to give the expenditures of the pay rolls by the 15th of the month or the 20th of every month, we can tell what the work is costing us for the preceding month. We can tell it as to every part of the work then.

Mr. MANN. And under the plan recently adopted that you hope to be able to do?

Colonel GOETHALS. Yes; we hope not only to be able to do that, but also to effect savings along the lines. It has all worked to our advantage in finding out that the cost of repairs is out of proportion, so we have gone after the motive power and machinery departments and cut down the expenses there very materially. That is the advantage of cost keeping.

If repairs to steam shovels cost more to one steam shovel than to all the other steam shovels working in the same class of material, then it shows that there is something wrong with the one steam shovel, and we can find out the difficulty and cut down the expense.

That was not started until the 1st of July, and we have not got it in working order yet.

The CHAIRMAN. What would be the cost of excavation of this same material, or as nearly as might be, here in the United States, say at some point in the Allegheny range?

Colonel GOETHALS. It will be higher with us, and it must be higher because of our higher wage scale. Our wage is from 50 to 70 per cent higher for the same class of work there than it is in the United States.

The CHAIRMAN. Do you get the same results, so far as quantity is concerned?

Colonel GOETHALS. I think we do, yes. I think we are working just as hard as any force anywhere in the United States. Do you not think so, Mr. Mann?

Mr. MANN. Yes, or harder.

Colonel GOETHALS. Yes; working harder.

Mr. ESCH. The eight-hour schedule of course adds to the cost.

Colonel GOETHALS. Yes; the eight-hour schedule adds to the cost. If Congress will abolish the eight-hour law we will get about 20 per cent more work a day from our skilled labor.

Mr. MANN. What do you include in your arbitrary charges in calculating the cost of machinery?

Colonel GOETHALS. The original cost of all machinery.

Mr. MANN. That is, a percentage of it?

Colonel GOETHALS. Yes. It ought to be a percentage; we have not figured it out yet. Of course all the division engineers are trying to keep their costs as low as possible, and they are trying to charge to plant certain machines that are necessarily installed in machine shops and certain repairs to certain machines, but that was to be threshed out by a board before I left, but I have not acted on their report. All repairs to machinery ought to be included in the current month in which the repairs are made, and not be charged to the arbitrary charge.

Mr. MANN. And the actual repairs in the cost of maintaining a repair establishment would be an arbitrary?

Colonel GOETHALS. That would be an arbitrary, yes.

Mr. ESCH. What is the total excavation necessary to secure an 85-foot level?

Colonel GOETHALS. We figured it out to the 1st of April to be 114,000,000 yards.

Mr. ESCH. And on your figures that would cost us about \$100,000,000?

Colonel GOETHALS. Just about.

Mr. ESCH. What would be the cost of locks and dams?

Colonel GOETHALS. Locks, with the increased width, would be in the neighborhood of \$56,000,000, very nearly \$60,000,000. That is, of course, a rough estimate.

Mr. MANN. That is 10 feet added to the locks?

Colonel GOETHALS. Yes. We have not figured out the cost of the dam yet. I expect to prepare those figures and submit them in my next annual report. We roughly estimated the 1st of April that it is going to cost in the neighborhood of \$250,000,000. The Navy wants 110 feet. We can build it 110 feet if they want it, and that is a question for the Navy to determine.

The CHAIRMAN. In that estimate of \$250,000,000, is that the cost from the 1st of April or the total cost?

Colonel GOETHALS. That we guessed would be the total cost.

Mr. ADAMSON. Does that include the sum paid to the French Government and to Panama?

Colonel GOETHALS. No; \$250,000,000 outside of that.

Mr. KNOWLAND. Does that include sanitation and paving streets?

Colonel GOETHALS. Everything of that kind. That is a rough estimate.

Mr. MANN. Mr. Knowland asked if that included sanitation and paving of streets. On your computation, of course, you expect all the street-paving cost to be paid back?

Colonel GOETHALS. Yes; that will be paid back.

Mr. KNOWLAND. As I understand it, the water supply and sewerage systems is included?

Colonel GOETHALS. They are included in that. That is not to be paid back where the water supply and sewerage systems are in our own settlements.

Mr. KNOWLAND. I mean in the cities?

Mr. ESCH. Would the widening of the whole to 110 feet vastly increase the difficulties of making and maintaining gates and increase the danger?

Colonel GOETHALS. No; the gates are practically floating gates. There will be a heavier mass to move around, and heavier machinery will be necessary. That is practically all.

Mr. MANN. It will make the passage through the Canal slower?

Colonel GOETHALS. Yes.

Mr. MANN. And take a considerably greater quantity of water?

Colonel GOETHALS. Yes.

Mr. MANN. Is not that the hardest proposition?

Colonel GOETHALS. That is the hardest proposition.

Mr. ESCH. Is there any danger of not having water enough to supply the locks?

Colonel GOETHALS. No; we have figured out that the 110 feet—the consulting board gave us an average of 4 feet in height of the lake for lockage purposes. That was the storage of water for lockages. There is no reason why that storage should not be continued up to 87 feet, and so we have estimated. There is no reason why that storage should not be drawn down to 80 feet, giving us 7 feet storage in case of necessity. Under those conditions we will have water enough for the same number of lockages that the consulting board estimated, 39 a day, at all seasons of the year, for every year of which we have any record.

Mr. MANN. Do you think that it will finally result in a dam at Alhajuela?

Colonel GOETHALS. I think so. I am in favor of a dam at Alhajuela now—but it will increase the cost—and putting our operating power plants there instead of at the Gatun dam.

Mr. ESCH. You have increased now the width of the locks from 90 or 85 feet—which was it?

Colonel GOETHALS. Ninety-five feet, the consulting board advocated. They are now to be increased to 110 feet.

Mr. MANN. Yes, to 110 feet. If you do not get them constructed, the foundations constructed within the next two years, they will increase them 10 or 15 feet more, probably, and then you will have to have a dam at Alhajuela.

Colonel GOETHALS. That will necessitate a dam at Alhajuela, yes.

Mr. MANN. That will furnish you water and motive power?

Colonel GOETHALS. Water and motive power both, yes.

Mr. MANN. And not a very expensive proposition either?

Colonel GOETHALS. Well, in making our computations for the width of the lakes we went up as far as 125 feet in width, and we found it would necessitate a dam at Alhajuela at a cost of \$4,000,000 or \$5,000,000. That would include the cost of a railroad run there, which would have to be done in order to get the materials there.

Mr. MANN. Would not the power generated there more than pay the interest on that sum?

Colonel GOETHALS. I think so, yes.

Mr. MANN. You could get power enough there to operate the canal, could you not?

Colonel GOETHALS. Yes, to operate all the locks, and, if shown to be a success at the time the Panama Railroad is rebuilt, to run the railroad also.

Mr. ESCH. And light the whole canal?

Colonel GOETHALS. Yes.

Mr. ESCH. Are you sure that all difficulties or dangers in operating locks and dams are provided for?

Colonel GOETHALS. I have never seen any difficulty in operating locks. I have operated locks myself, and I have never seen any difficulty in the matter.

Mr. ESCH. You are going to use the double-gate system?

Colonel GOETHALS. We are going to use the double-gate system at the upper locks, and I am in favor of putting them in at the others.

Mr. HUBBARD. What is the present way for furnishing power?

Colonel GOETHALS. From the spillway. The mitering gate will be the gate for operating the lock, and then the horizontal gate is put in at the upper lock, and that is to take the blow of a vessel in case the vessel strikes the gate. Mr. Goldmark, the designing engineer for the gates, is in favor of making that gate strong enough to resist that blow, but not strong enough to resist the water pressure, and I am rather inclined to that idea myself. I do not see the difficulty in operating locks, and I never have seen such a difficulty.

Mr. ESCH. I referred to locks in flight.

Colonel GOETHALS. Yes, the locks in flight was what I referred to. I do not see any difference between locks in flight and single locks, as to difficulties in operation.

Mr. WANGER. Has anything been done toward improving the harbor at Limon Bay?

Colonel GOETHALS. No, sir. The dredging around the point at Cristobal has resulted in sheltering boats from wind, which protection they did not have in Colon. They have dredged there. That is all that has been done.

Mr. WANGER. No breakwaters have been built?

Colonel GOETHALS. No; no breakwaters.

Mr. MANN. We have Senator Blackburn here—

Mr. RICHARDSON. I would like to ask Colonel Goethals one question, for information. The steamship company that runs in connection with the Panama Railroad transfers freight to individuals on the line. Do you know what proportion of the freight is charged to individuals compared with what is charged the Government for its freight?

Colonel GOETHALS. I think the Hamburg-American Line gets all—most of it.

Mr. RICHARDSON. You say the steamship line is engaged alone in transporting freight?

Colonel GOETHALS. And passengers.

Mr. RICHARDSON. And passengers?

Colonel GOETHALS. To and from the Isthmus. Going down the steamers are loaded with freight for the Commission, and very little outside freight.

Mr. RICHARDSON. But going back——

Colonel GOETHALS. Very little freight going back.

Mr. RICHARDSON. Do you know what proportion is the personal freight and the Government freight?

Colonel GOETHALS. No, sir.

Mr. RICHARDSON. Do you know how the rates run between the Government freight and individual freight?

Colonel GOETHALS. I do not know.

Mr. BLACKBURN. They are exactly the same.

Mr. RICHARDSON. You said just now, as I understood you, that the Commissioners were all directors in the railroad and steamship companies.

Colonel GOETHALS. They are all directors, yes.

Mr. RICHARDSON. And who else besides the Commissioners are directors?

Colonel GOETHALS. The vice-president, the man who operates the New York office; Mr. Rodgers, the general counsel; and General Edwards. I don't know who the others are.

Mr. RICHARDSON. They are interested in the steamship line?

Colonel GOETHALS. Yes; the majority of the directory are the Commission.

Mr. RICHARDSON. The Government owns the railroad?

Colonel GOETHALS. The Government owns all the stock except such as is owned by the Commissioners, who are the directors. That is one share of stock apiece.

STATEMENT OF HON. JOE S. C. BLACKBURN, MEMBER OF THE PANAMA COMMISSION.

Mr. MANN. You are at the head of the Department of Civil Government, are you not?

Mr. BLACKBURN. Yes.

Mr. MANN. Will you tell us how that is constituted? Tell us about the organization.

Mr. BLACKBURN. The Department of Civil Administration, Mr. Chairman and gentlemen, is made up of several bureaus or divisions; I think seven in number. The seven divisions are the postal service, the customs service and internal-revenue service, the police department or division, the fire department or division, the school system, the superintendent of public works, and the judiciary. Those constitute the Department of Civil Administration.

Mr. RYAN. No public-health department?

Mr. BLACKBURN. The public-health department is embraced in the Sanitation Department. Commissioner Gorgas is at the head of the Sanitation Department. The Sanitation Department used to be

a part of the Civil Administration Department, but they were separated before this Commission organization took charge, and the sanitation and public health were made a separate department under Colonel Goethals, as now organized.

Mr. MANN. What we want to know is this: Will you tell us about those different divisions of your department?

Mr. STEVENS. Take each one up separately.

DEPARTMENT OF REVENUES.

Mr. BLACKBURN. Taking up first the Department of Revenues, the Collector of Revenues is charged with the following duties:

First. The administration of the ports of Ancon and Cristobal.

Second. The maintenance of the Canal Zone postal system.

Third. The administration of public lands in the Canal Zone acquired by purchase from the French Canal Company from the Republic of Panama and not required for the construction of the canal.

Fourth. The collection of taxes in the Canal Zone.

Fifth. The administration of the estates of American employees of the Isthmian Canal Commission and of the Panama Railroad Company dying intestate upon the Isthmus of Panama.

The work of the custom revenues office or division amounts practically to very little beyond the clearance of ships touching at the two ports named on the Atlantic and Pacific side.

Mr. MANN. That is, you collect no revenue?

Mr. BLACKBURN. No; we collect no revenue. The internal revenue part of the office is of more practical importance. There are some distilleries there from which we collect revenue, and we collect revenue from saloon licenses in the Zone. Those saloons have been reduced steadily from time to time until now they number only 34. The Commission upon application issues the licenses for the keeping of a saloon at such point as the Commission may in its discretion select, between the terminal points, for which a license fee of \$100 a month is paid. This customs service office issues a license under the direction of the Commission and collects the license fees.

As I have said, this department has charge of the rental of lands. All the Zone lands that are rented are rented by the head of this department, and the land rentals are collected by him.

Mr. TOWNSEND. What are they rented for, what purposes?

Mr. BLACKBURN. For agriculture, or for whatever purposes the renters may see fit to use them. Leases are made.

Mr. MANN. I saw a list recently. I think they had about 500 leases of lands, and about one-half of them are for agricultural lands.

Mr. BLACKBURN. Yes; and those leases are revocable at the pleasure of the Commission.

Mr. TOWNSEND. Is that the policy of the Commission; to lease that land out for agricultural purposes?

Mr. BLACKBURN. Yes, sir.

Mr. TOWNSEND. How long do those leases run?

Mr. BLACKBURN. Not beyond three years, and they are revocable at the pleasure of the Commission.

Mr. TOWNSEND. What has been done with the improvements, if any, that have been made by the lessees on those lands?

Mr. BLACKBURN. Whenever the land is taken, if the leases are revoked, if the land is needed to be flooded, or for the shifting of tracks for the railroad or other purposes the lessee is allowed practically an agreed compensation for the improvement he has put upon the land, whenever we revoke the lease and take the land away from him.

Mr. TOWNSEND. Under what other circumstances do you take the lease away from him?

Mr. BLACKBURN. None.

Mr. TOWNSEND. Then under all circumstances the Government pays for the improvements?

Mr. BLACKBURN. No; the lessee puts them there at his own risk. At the expiration of the lease he leaves them there. The land laws of the United States and the mineral laws of the United States have never been extended to the Zone. There have been applications made to me for leases in perpetuity. One American company filed an application for a lease in perpetuity upon 10,000 hectares of Zone land, which would be about 25,000 acres in round numbers, both for mineral and agricultural purposes, offering to obligate itself to bring every six months not less than twenty families from the States and colonize them there permanently. But those leases could not be issued for the reason that the land laws and the mineral laws of the United States have never been extended to the Zone, nor are they applicable there.

Mr. HUBBARD. Those leases are simply under a regulation of the Commission.

Mr. BLACKBURN. That is all.

FIRE DEPARTMENT.

Mr. BLACKBURN. As to the fire department, it is largely in an embryo state as yet. About eighteen months ago the organization was begun and the progress and development have been exceptionally rapid and satisfactory. The Government, of course, carries always its own risk and never carries insurance upon any of its buildings. We have in the neighborhood of 5,000 buildings on that Isthmus and they are of exceptionally inflammable material. They are all frame buildings, or practically all of them. There are peculiar reasons tending to increase the risk of fire there. The unavoidable storage of large amounts of dangerous combustible material makes the danger from fire very great. So that it would seem to be unusually important that the Government should protect itself as far as possible against fire.

The fire department was not very well organized eighteen months ago. There was but one fire company then, and that consisted of five men, located at the Atlantic terminal, at Cristobal or Colon. It has been extended now along the Zone, and its efficiency, I think, has been fairly demonstrated in the largest fire that we have had on the Isthmus, which was the burning of the Mount Hope warehouse. This partially organized fire department there managed to save more than one-half of that building and contents. That was and is the largest storehouse and storage warehouse that we have upon the Isthmus. And so I think the official reports filed here ought to satisfy us that the advance made in the fire department, the building up of a fire department there, has been altogether up to expectations.

Mr. RYAN. Is it a paid fire department?

Mr. BLACKBURN. Most of it is yet a volunteer department. Twenty per cent of it is a paid department, perhaps; as it stands now. But that is what you will see by the reports made and the estimates submitted. We are seeking to increase that—

Mr. RYAN. The Commission provides the apparatus?

Mr. BLACKBURN. Oh, yes.

Mr. RYAN. And pays the men that are paid?

Mr. BLACKBURN. Yes.

Mr. MANN. Pays them when they are in service?

Mr. BLACKBURN. Yes.

The CHAIRMAN. Have you the modern steam fire engine?

Mr. BLACKBURN. Oh, yes.

The CHAIRMAN. What number of engines?

Mr. BLACKBURN. We have but two now, and they are at the terminal points.

Mr. MANN. I wish you would explain, when you are through with the fire department, in regard to the judicial organization?

ORGANIZATION OF THE JUDICIARY.

Mr. BLACKBURN. The judicial organization upon the Zone consists of three judicial circuits, one at each of the terminals and one in the center of the Zone.

Mr. TOWNSEND. Whereabouts in the center is it located?

Mr. BLACKBURN. Where the court is held, do you mean?

Mr. TOWNSEND. Yes.

Mr. BLACKBURN. One is held at Cristobal, the other at Ancon, which is the Pacific terminal, and the third is held at Empire and Gorgona. Those three judges constitute the circuit, the *nisi prius* trial justices. Sitting in bank they constitute the supreme court and the court of last resort in the Zone.

Below that in the judicial organization are five district judges, who take the place of the municipalities that were eliminated just before this organization of the Commission came into effect and took the power. There are the five district judges. They represent a combination of what we in the United States understand to be the powers of justices of the peace and police judges. They have substantially, under the same limitations, the powers of police judge and magistrate. Then there is a prosecuting attorney. There is also a legal department, established more than a year ago, by action of the Commission. Mr. Rogers is the head of that, as general counsel. There is in that an attorney on the Isthmus who has charge of all the legal matters of the Isthmian Canal Commission and of the legal matters of the railroad on the Isthmus—not in the United States.

Then there is special counsel provided for in the legal department.

There is also now an assistant to that local counsel, and also an assistant to the prosecuting attorney's office.

Mr. RUSSELL. Do they have jury trials there?

Mr. BLACKBURN. No; they have no jury trials on the Zone, neither in civil nor criminal proceedings.

There is under sentence of death there now a British subject whose execution was fixed for the 13th of September last, but just before that day arrived, after all the preliminaries had been arranged for

the execution, I received a mandate from the Supreme Court of the United States, to which that case had been brought upon a writ of error, involving simply the one question as to the validity of a sentence of death unsupported by a jury trial.' That is pending here in the Supreme Court now, and the execution delayed until it shall have been disposed of.

Mr. STEVENS. Was there any question raised there as to the power of the court or the jurisdiction of the court?

Mr. BLACKBURN. Oh, yes; and it was upon the overruling of that point that it came up on the writ of error here.

Mr. STEVENS. I am not speaking about there not being any jury trial, but whether the court had any jurisdiction.

Mr. BLACKBURN. No; there was no such question raised.

Mr. HUBBARD. Does the whole judicial system exist by order of the Commission?

Mr. BLACKBURN. The President of the United States, by Executive order, established the judicial system.

Mr. HUBBARD. And the details you have mentioned?

Mr. BLACKBURN. Except the substitution of the five district judges in lieu of the municipalities. Beyond that the judicial system was established by the Executive order issued by the President.

Mr. RUSSELL. Does that order map out the jurisdiction of these district judges?

Mr. BLACKBURN. No; not the district judges, because they were but recently substituted for the old municipalities.

Mr. RUSSELL. And obtain the same jurisdiction?

Mr. BLACKBURN. Yes.

Mr. TOWNSEND. You mean by the municipality, the municipal courts in each of these villages?

Mr. BLACKBURN. Yes, sir. You mean did they have them?

Mr. TOWNSEND. Yes.

Mr. BLACKBURN. Yes; but not since the reorganization of the Commission.

Mr. MANN. Heretofore each one of those little towns had its municipal government?

Mr. BLACKBURN. Yes.

Mr. TOWNSEND. And you have abolished that?

Mr. BLACKBURN. Yes; that has gone, and these five district judges take their place.

Mr. RUSSELL. Is the jury system attempted to be dispensed with in the order as is made?

Mr. BLACKBURN. The jury system has never obtained there.

Mr. MANN. The trial by jury is unknown under the Panama law or the Colombia law?

Mr. BLACKBURN. Yes.

Mr. RICHARDSON. Referring to the question of saloons, you say you have reduced the number of saloons to 34. When you did that, did you increase the tax to each saloon?

Mr. BLACKBURN. No, sir.

Mr. RICHARDSON. Then it is your policy to gradually reduce the number, so that eventually you may have prohibition there?

Mr. BLACKBURN. I do not know whether it will be possible to do that. We find this: That if every saloon upon the Zone were closed, if the whole saloon system was eliminated, they would still have

every opportunity for all the drinking they wanted to do at the two terminal cities at Panama and Colon, and experience has proved that the sprees last longer and there are more days lost from labor when the laborers are allowed to get into the saloons of Panama and Colon than when they get their thirst slaked in the Zone nearer where they work.

Mr. KNOWLAND. Do they get better whisky in the Zone than if they had to go to Colon or Panama?

Mr. BLACKBURN. Yes, they do.

Mr. KNOWLAND. You haven't anything like the pure-food bill in force down there?

Mr. RICHARDSON. You haven't any law to test the purity of the whisky?

Mr. BLACKBURN. Yes; all of the liquors dispensed at the 34 bars are subject to the most critical examination of the inspectors.

Mr. RICHARDSON. What do you think would be the effect of prohibition down there?

Mr. BLACKBURN. Well, it would be mere guesswork as to the effect it would have. I think we would have difficulty in keeping the laborers out of the saloons of Panama and Colon. In fact, I think it would be impossible.

Mr. MANN. The Italian and Spanish laborers down there drink wine regularly.

Mr. BLACKBURN. We supply it only on Sundays and holidays, and then at dinner only.

Colonel GOETHALS. But you see the Spaniard and the Italian going to the mess during the week to get their wine, and they drink it with their meals.

Mr. MANN. From what I observed, there is not a great deal of drinking on the Zone.

Mr. RICHARDSON. Colonel Goethals has said that they lost four days in labor from all the workmen when they paid them off twice a month, and I supposed that that was on account of their going to the saloons when they were paid off.

Colonel GOETHALS. No; that is not necessarily so; they go to town to have a good time.

Mr. RYAN. That is practically down to one saloon for each thousand of population.

Mr. BLACKBURN. Yes.

Mr. MANN. Less than that. The population of the Zone must be 75,000.

Mr. RYAN. I meant for each man employed—one saloon to each 1,000, probably about that.

Mr. BLACKBURN. We undertook to take a census of the population of the Zone during the latter part of the summer just past. It was not satisfactory by any means. It disclosed a population of less than 60,000, but it bore convincing evidence, indisputable marks of error upon the side of a minimum population. I apprehend that there are about 75,000 people in the Zone now.

Mr. TOWNSEND. Outside of Colon and Panama, you mean?

Mr. BLACKBURN. Yes.

Mr. RUSSELL. Are there any good reasons why the jury-trial system should not be extended to the Zone?

Mr. BLACK. There are some reasons. For instance, we have a conglomerate population there in the employment of the Government. If you will treat every island of the West Indies, for instance, as a separate unit—I mean Jamaica, the Barbadoes, Martinique, and so on, all as separate nationalities—then we have upon the pay roll down there 42 different nationalities. They hold different allegiance. For instance, take the Jamaican who is under sentence of death there now. He is a Jamaican and a British subject. The question would be whether he should be given a trial by a jury of his own countrymen.

The color question comes up down there, and my observation leads me to the conclusion that they insist upon drawing the color line there even more strictly than it is drawn here. The southern Europeans, white men—the Greeks and the Spaniards and the Italians—are more insistent upon the observation of color lines than you find among the people of the States here at home. We have had great difficulty about colored policemen executing the processes of the criminal courts upon white men.

The Spaniards and Italians object to having processes served on them by colored men. Riots have occurred of a somewhat serious character for no reason in the world except that a colored policeman had undertaken to make an arrest of an Italian or Spaniard. Therefore, the scope of service of the colored policemen has been by order restricted to practically the colored camps, in the service of criminal processes.

All these conditions might make trouble in the establishment of trial by jury in the Zone. The whites might, and probably would, object to trial by a jury of colored jurors; and so, upon the other hand, the negroes would object to being tried by white men. Beyond that I know of no difficulties in the way of establishing jury trials.

Colonel GOETHALS. Summary justice, too, keeps order more effectively than if we had a jury system. I do not think we ought to have a jury system there.

Mr. BLACKBURN. The jury system has never obtained in the Philippines, as you know.

Mr. RUSSELL. Speaking of the man under sentence of death in the Canal Zone, how was the process begun, what was the procedure by which that trial was set on foot?

Mr. BLACKBURN. Precisely as though a grand jury had drawn an indictment.

Mr. RUSSELL. Was there a grand jury?

Mr. BLACKBURN. No; a warrant was issued upon the affidavit of parties, charging him with murder.

Mr. RICHARDSON. On the same theory that we have in this country, the justice of the peace?

Mr. BLACKBURN. Precisely. It is informal, but, as the chairman has suggested, it is a very direct method of procedure.

Mr. RUSSELL. Did the trial proceed on the affidavit?

Mr. BLACKBURN. Yes.

Mr. RUSSELL. That was the basis of the prosecution?

Mr. BLACKBURN. Yes; the only basis.

Mr. RUSSELL. There was no information filed on that by the prosecuting officer?

Mr. BLACKBURN. No.

Mr. RUSSELL. They proceeded on this affidavit alone?

Mr. BLACKBURN. Yes.

Mr. KENNEDY. The sovereignty against which the criminal-offended was what—the Panama Canal Zone?

Mr. BLACKBURN. No; the United States.

Mr. KENNEDY. The United States jurisdiction?

Mr. BLACKBURN. Yes.

Mr. KENNEDY. The government created by Executive order?

Mr. BLACKBURN. Yes.

Mr. RUSSELL. Do you give him compulsory process to obtain witnesses?

Mr. BLACKBURN. Yes; every opportunity is afforded him.

Mr. RUSSELL. Attachments?

Mr. BLACKBURN. Yes.

Mr. MANN. There is no question about his having had a fair trial. It is simply a technical question that is raised.

Mr. RUSSELL. I did not mean to suggest that. I only wanted to get at the method of the trial.

Mr. BLACKBURN. He has every opportunity by compulsory process for the obtaining of his witnesses. Every safeguard is thrown around him in the trial of his case, except there is a lack of jury.

Mr. RYAN. Do you furnish him counsel if he has not enough money to employ one?

Mr. BLACKBURN. Yes.

Mr. RICHARDSON. Something was said about the judicial system, that you had either three or five general judges.

Mr. BLACKBURN. Three judges.

Mr. RICHARDSON. They come together to sit as supreme court, do they not?

Mr. BLACKBURN. They sit in bank as the supreme court.

Mr. RICHARDSON. Then they sit in their separate districts?

Mr. BLACKBURN. Yes.

Mr. RICHARDSON. And then come together as the supreme court?

Mr. BLACKBURN. Yes.

Mr. RICHARDSON. The judge who has heard a case in his district court comes in and sits as a judge in the appellate court, does he; is he allowed to sit on that case?

Mr. BLACKBURN. Yes. Otherwise there would be but two judges in the supreme court in trying a case.

Mr. RICHARDSON. Would they not be obliged to call in a judge, as they do in the States?

Mr. BLACKBURN. They can do that; yes.

Mr. RICHARDSON. But they can not do that down there?

Mr. BLACKBURN. Yes; they can.

Mr. RICHARDSON. For instance, a judge sitting there in the lower court might be excused from sitting in that case in the upper court?

Mr. BLACKBURN. He might be excused; yes.

Mr. RICHARDSON. Very much the same system we have got over here, then?

Mr. BLACKBURN. Precisely.

Mr. RUSSELL. How is the record made up from the trial judge to the supreme court?

Mr. BLACKBURN. From the nisi prius court——

Mr. RUSSELL. It is a written record, is it?

Mr. BLACKBURN. Oh, yes.

Mr. RUSSELL. Embracing what?

Mr. BLACKBURN. All the facts, or a bill of exceptions, if taken and goes up regularly, just as here in the States, except that one exception that I have referred to, and that seems to be an unavoidable feature that might be objected to. The supreme court consists of but the three judges, one of whom has been trial judge in the nisi prius court. He has already passed upon the same case.

Mr. HUBBARD. The percentage of affirmations of the opinions rendered in the lower court I suppose is large?

Mr. BLACKBURN. Yes; the lower court is hardly ever reversed.

Mr. WANGER. Has anything been done in the way of improving conditions with respect to recording titles to land?

Mr. BLACKBURN. Yes; there has been some improvement made in that direction, but as yet there is plenty of room for improvement.

Mr. WANGER. Where are the titles recorded?

Mr. BLACKBURN. In the different circuit court offices. Each of these three circuit or nisi prius judges has a clerk's office. That is the only place of record we have for titles, marriages, papers regarding settlements of estates, and all such matters. They are all made of record in those offices.

POLICE DEPARTMENT.

At the time of the transfer of the Canal Zone territory to the American Government there was a Panamanian police force on duty in the towns in the Zone, consisting of approximately 80 men.

The American chief of police assumed active charge of the force on June 2, 1904, with authority to recognize the force to consist of 1 captain, 2 lieutenants, 1 clerk, 1 orderly, 6 sergeants, 6 corporals, and 65 privates. The corporals and privates are natives or negroes, and the officers above the rank of corporal are Americans.

On March 21, 1905, an increase was authorized, which brought the total force of the department, including 5 clerks, up to a strength of 146 men. At the same time the chief of police was authorized to employ 15 first-class privates, at a salary of \$900 per annum, which permitted him to attract to the service honorably discharged non-commissioned officers of the United States Army, who were capable of performing more important police duties than the natives and West Indian negroes, who had theretofore constituted the rank and file of the police force.

Further increases in the effective strength of the department have been authorized from time to time, as the increase in population and the establishment of new towns and labor camps along the route of the canal has rendered further police protection necessary.

On October 30, 1906, the department employed 246 men. In the following December the force was reorganized on a basis of 1 captain, 2 lieutenants, and 160 noncommissioned officers and privates, with a clerical force of 6 men.

Reductions were gradually made during the months of December, 1906, and January, 1907, to comply with this reorganization. It then became necessary, chiefly on account of the large influx of European laborers, who proved more turbulent than the West Indian negroes who formerly constituted the bulk of the population, to again increase the numerical strength of the police department. This was done by the enlistment of additional first-class American policemen,

who were found most competent to deal with the new and troublesome element of the population.

At the close of business on October 31, 1907, the department had a numerical strength of 203 men, including a clerical force of 7 men.

New police stations and jails have been constructed at Las Sava-nas, Ancon, Pedro Miguel, Culebra, Empire, Las Cascadas, Bas Obispo, Matachin, Gorgona, San Pablo, Tabernilla, Gatun, Mount Hope, and Cristobal. At La Boca, Corozal, Paraiso, and Bohio old French buildings have been remodeled, and small lockups have been constructed at Lirio, Cucaracha, and New Culebra.

Pending the construction of a Zone penitentiary, which has been delayed on account of uncertainty in the plans for the completion of the canal, the jail at Culebra has been used for the confinement of Zone prisoners. This building is now being enlarged by the addition of an adjacent structure originally intended for a laundry and remodeled for use as a prison.

On October 31, 1907, 82 Zone prisoners were serving sentences in this jail.

Police stations on the line have gradually been fitted with telephone connections, which have greatly added to the efficiency of the service.

The work of the police department has grown more complicated with the increase in population in the Canal Zone and the enactment of new legislation. During the year ended October 31, 1905, there were 2,379 arrests in the Canal Zone, or an average of 198 a month. During the year ended October 31, 1906, there were 4,477 arrests, or an average of 373 a month; and during the year ended October 31, 1907, there were 6,209 arrests in the Zone, or an average of 517 a month.

The chief of police is ex officio warden of the Zone penitentiary, coroner of the Canal Zone, and marshal of the Zone courts. In the latter capacity, either personally or through his deputies, he serves all subpoenas, summonses, and writs of execution.

SCHOOL SYSTEM.

The school system was organized nearly two years ago. It extends from Colon, or rather from Cristobal, the Atlantic terminal in the Zone, to La Boca or Ancon. At every settlement or town along the 47 miles of the length of the Zone where there is a population warranting it we have established a school, schools for colored as well as for whites.

Mr. STEVENS. Where did you get your teachers?

Mr. BLACKBURN. We get them, so far as the white schools are concerned, every teacher except perhaps two, from the States. I think there are two (probably only one now) Panamanian teachers.

Mr. RUSSELL. What is the salary of the teachers?

Mr. BLACKBURN. They are graded into three classes, \$60 a month, \$90 a month, and \$110 a month. Those are the classifications.

Mr. RYAN. That is so much in gold?

Mr. BLACKBURN. That is gold; but that does not include subsistence.

Mr. STEVENS. Do they have any right of purchase, or anything like that?

Mr. BLACKBURN. They would have, but they do not keep house; they asked to be segregated.

Mr. MANN. They are given quarters, are they not?

Mr. BLACKBURN. No; we have not been able to yet.

Mr. MANN. They are entitled to quarters, are they not?

Colonel GOETHALS. We have given some quarters. We have set aside bachelor quarters for the teachers at Culebra, Empire, and Cristobal.

Mr. BLACKBURN. Wherever the shifting of the force will leave vacant bachelor quarters at a given place they have been assigned to teachers, where it could be so arranged.

Mr. ESCH. You have about 1,100 negro scholars there and only about 19 teachers. Can they do the work?

Mr. BLACKBURN. We have sought to have a teacher on an average for every 35 pupils. In some cases the pupilage has exceeded that allowance, and that was unavoidable, as you will readily understand, in a school system not yet two years old. We have not had the opportunity of getting it settled into satisfactory running order yet, but the effort is to have no more than 35 pupils to a teacher, as far as possible.

Mr. ESCH. That is the proportion with reference to the white children?

Mr. BLACKBURN. No; not in all cases. We have some white schools there with 60 pupils to a teacher.

Mr. ESCH. That is the average for the colored schools. You have the same number of white teachers—18 teachers for the white children and an enrollment of 325 scholars?

Mr. BLACKBURN. No; I think you are mistaken there. I have the data here, which I will read. I think you are underestimating the white pupils.

Mr. ESCH. I got it from the record. Of course, the enrollment and actual attendance may be vastly different.

Mr. BLACKBURN. I have the information here.

(Referring to memorandum.)

The Canal Zone public schools were reopened October 1, 1907, with schools for white children at La Boca, Ancon, Pedro Miguel, Paraiso, Culebra, Empire, Las Cascadas, Gorgona, Gatun, and Cristobal, and schools for colored children at La Boca, Las Savanas, Paraiso, Culebra, Empire, Matachin, Cruces, Gorgona, Tabernilla, Bohio, Gatun, Mount Hope, Cristobal, and Pleya de Flor. Nineteen teachers were employed in the schools for white children. Of these, 7 are paid \$110 a month, 11 are paid \$90 a month, and 1 is paid \$60 a month. With four exceptions, all of these teachers have had previous experience in the United States. Of the four teachers without previous experience in the United States, two taught in the Canal Zone public schools last year, making creditable records, and one is a teacher of Spanish, with previous experience in private schools and in the Normal College in the city of Panama. Three white teachers and 15 colored teachers are employed in the schools for colored children, all at the rate of \$60 a month.

Coming to the question of enrollment, the enrollment in the white schools for November, 1907, was 387. The average daily attendance was 311. The average number of pupils to each teacher was 2L.3. In the colored schools the enrollment for November was 1,079. The

average daily attendance was 730. The average number of pupils to each teacher was 59.9.

The schools are divided into eight grades, in conformity with a similar organization in the schools in the United States. The curriculum includes reading, writing, spelling, grammar, geography, elementary physiology, and free-hand drawing. In addition to the instruction in these subjects, English-speaking children are taught Spanish and Spanish-speaking children are taught English. For American children who are too far advanced for the elementary grades, high school classes have been organized at Culebra and Cristobal, in which instruction is given in algebra, geometry, Latin, Spanish, botany, physical geography, general history, rhetoric, and biology.

It is the aim of the division of schools to provide for the children of American employees of the Isthmian Canal Commission instruction similar to that which they would receive in the public schools of the United States, and to provide for children of the Commission's West Indian laborers such schooling as they might obtain in the Republic of Panama or in their native islands.

The expenses of the Canal Zone public schools, including the salaries of teachers, the construction and repair of buildings, and all necessary equipment and supplies are defrayed from funds raised by local taxation in the Canal Zone. The expenses of the school system for the current year are estimated at \$75,000.

PUBLIC LANDS.

Mr. WANGER. Is there any provision for determining a controversy between private claimants for land—land of the United States or the Panama Railroad?

Mr. BLACKBURN. That, I would say, comes under the jurisdiction of the Legal Department, of which Mr. Rodgers is the head. He is here. That has not been assigned to the Department of Civil Administration, but all questions involving the acquisition of land and disputed titles belong to the Legal Department.

Mr. MANN. You have a statement covering nearly all the facts in reference to the administration down there, have you not?

Mr. BLACKBURN. I think I have. I think I have a full statement in detail giving all the data with reference to every bureau or division in the Department of Civil Administration.

Mr. MANN. Can you furnish a copy of that to us, so we can have it printed?

Mr. BLACKBURN. Well, I will just leave this copy I have.

DEPARTMENT OF PUBLIC WORKS.

Mr. STEVENS. What are you doing with your Department of Public Works?

Mr. BLACKBURN. I want to say that it is not altogether easy to give the committee a correct understanding of that department. Its jurisdiction is exclusive and not at all complicated so far as the cities of Panama and Colon are concerned. It has charge of the water and the sewerage systems of both cities. Of course, as the committee knows, they are foreign cities and not within our jurisdiction. Expressly reserved in the treaty of cession to the United States of the

10-mile strip from ocean to ocean were the cities of Colon and Panama, but in that treaty the United States was conceded and given absolute jurisdiction for purposes of sanitation in those two cities, as a condition necessary for us to maintain satisfactory health conditions along the Zone.

MR. TOWNSEND. That would not include the saloon proposition, would it?

MR. BLACKBURN. No; we have nothing to do with the saloons in either Panama or Colon. But we have sanitation jurisdiction of those two cities. Not many weeks before we left the Isthmus, we concluded an agreement with the Panamanian Government for amortization of the debt they incurred by reason of our paving the streets of those two cities and establishing water and sewerage systems for them. The question was how we were to get back the money we had advanced to pave with vitrified brick the principal streets of the two Panamanian cities, and the money advanced in establishing a water and sewerage system. The water system, I may say, in passing, has a filtration plant, and I think it is considered by the experts sent out by the Department of Agriculture here, as well as by the experts in the Department of Sanitation there, that that water system compares favorably with the water systems of the average city of the States and is better than many, perhaps inferior to some. My recollection is that, according to their opinion, it is equal to if not better than the water system of the city of Washington. The sewerage system may be spoken of as highly as the water system. It was finally agreed that the fixing of water rates in the cities of Panama and Colon should be at such a figure as would yield a certain revenue to us, and that should be sufficient to discharge the debt, both principal and interest, advanced by us in paving the streets of the cities and building their water and sewerage systems.

An agreement was finally reached with Secretary Arias, secretary of state of the Republic of Panama, and only a few weeks before we left the Isthmus we closed an agreement with him fixing the water rates for those cities, which we collect through this Department of Public Works at the end of fifty years, which was a stipulation of the treaty. We will have gotten back principal and interest of the advancements made for those three purposes. So that that matter has at last been concluded satisfactorily, and that is a part of the work of the superintendent of construction.

MR. KNOWLAND. What rates of interest?

MR. BLACKBURN. They differ in the two cities. It is all set out here. The Government of Panama, as well as the individual citizens of the two cities, pays for this water.

MR. KNOWLAND. I mean what basis does the Government figure as interest. You said you would get back principal and interest.

MR. BLACKBURN. What was the rate, Colonel Goethals, do you remember?

Colonel GOETHALS. I do not remember. 2

MR. RODGERS. It was figured on a basis of $\frac{3}{4}$ per cent.

MR. BLACKBURN. I thought it was 5 per cent, but of course we proceeded on the theory of the consumption of water for the last twelve months, and the increase in its consumption. The Government of Panama pays for all the water that is consumed and collected from the individual citizens.

Mr. STEVENS. That makes a pretty high water rate, does it not?

Mr. BLACKBURN. The rate has been reduced, especially in Colon, because of the unexpected increase in the consumption of water there.

Mr. STEVENS. Does your Sanitation Department consult with you at all about these rates? My point is, does the Sanitary Department consult as to whether sufficient water would be used in Panama and Colon to prevent any epidemics?

Mr. BLACKBURN. No; there has been no occasion for any conference upon that subject.

Mr. STEVENS. If you have water rates pay all those expenses, would they not be so high as to prevent the Panama people from using a sufficient amount of water?

Mr. BLACKBURN. No; on the contrary, in both cities the increase has been unexpectedly large. So much so that in the city of Colon we voluntarily reduced the rate 10 cents on a thousand gallons, because if it was not reduced to that extent it would have left a burdensome and cumbersome surplus in our hands.

Mr. RYAN. It is sold by the meter?

Mr. BLACKBURN. Yes; by meter measure, and the Government of Panama is responsible for any differences between—

Mr. RYAN. Does each consumer have a meter?

Mr. BLACKBURN. Yes.

Mr. RYAN. Who supplies the meter?

Mr. BLACKBURN. We do; but it goes into this general fund, because the cost of maintenance is estimated and provided for in this process of amortization.

Mr. RICHARDSON. Does the Government keep up plumbing, too?

Mr. BLACKBURN. Yes.

Mr. MANN. Under your new methods of caring for the water, is the water now sweet?

Mr. BLACKBURN. There has been a good deal of complaint, or was about the time you were down there. There was a good deal of complaint then, but there is no longer such complaint. The water is sweet now.

Mr. MANN. And is it now odorless?

Mr. BLACKBURN. Yes; the treatment to which these reservoirs were subjected seems for the time intervening since you were down there to have been satisfactory, because there has been no complaint made along those lines since you were there.

Mr. ESCH. What are you doing for the roadways?

Mr. BLACKBURN. There is where the Department of Public Works lapses over into Commissioner Rousseau's department. We found that there might be, and without any disadvantage so far as I could see there could be, made a considerable saving in the way of duplication of work and reduction of officials by merging many of the features of Mr. Rousseau's Department of Mechanical Construction and the Department of Public Works, and he and I were directed by the Commission to confer and see how far it was possible to avoid this duplication of work and to accomplish this reduction of employment force.

We agreed upon a plan that was adopted by the Commission by which the actual construction, the work of construction hitherto supervised and handled by the Superintendent of Public Works,

should be transferred to the Municipal Engineering Department; but as the cost of the building of the roads and trails and bridges had to come out of Zone funds instead of Congressional appropriation funds, it was necessary that the Department of Civil Administration should have some voice in the matter of ordering this work. Otherwise there might be an immense deal of work ordered that the municipal funds would not hold out to pay for. So that the Superintendent of Public Works retains the right of estimates as to costs of trails, roads, bridges, slaughterhouses, or what not, that the Department of Civil Administration may not be overburdened with debts beyond the limits of the Zone fund.

The law expressly provides the purposes to which the Zone funds shall be applied. All the revenues of the Zone proper—taxes, franchises coming from liquor licenses; fines, penalties imposed, rates, the franchise license paid by the oil-pipe line, and known as the California Oil Company, operating its line across the Zone—all these constitute the revenues of the Zone, and that is what is termed the Zone fund.

Mr. MANN. Is there any reason from your point of view why all that money should not be covered into the Treasury of the United States and an appropriation made carrying on these improvements?

Mr. BLACKBURN. No. Upon the contrary, I think it would be a simplification of business, but as it stands under the law now these Zone funds are limited to certain purposes.

Mr. STEVENS. Who makes that law?

Mr. BLACKBURN. Well, Congress has never legislated directly for the Zone.

Mr. STEVENS. That is what I want to know.

Mr. BLACKBURN. The laws of the Zone consist of executive orders and resolutions adopted and passed by the Commission. I do not know that any lawyer could determine which is of superior dignity. I should say it was the Executive order issued by the Secretary of War, with the authority of the President of the United States; but the laws, both civil and penal—and we have both civil and penal laws—are made up of Executive orders issued by the President, or with his authority by the Secretary of War, and by the action of the Canal Commission from time to time.

Mr. MANN. You have referred to the funds that come in from licenses and elsewhere to the Canal Zone government. There is no annual appropriation of those funds, I suppose?

Mr. BLACKBURN. No.

Mr. MANN. Do you provide for the expenditure of that money from time to time?

Mr. BLACKBURN. Yes; subject to the thing that it is to be applied to.

Mr. MANN. I understand. Some of the funds have to go to schools, and so on?

Mr. BLACKBURN. Yes. For instance, one-half of the land tax is devoted exclusively to school purposes. All the franchise tax paid by the California Oil Company is devoted to school purposes.

Mr. MANN. That is provided by law to protect yourselves against yourselves; that is what it amounts to. There is no earthly reason for that down there, is there?

Mr. BLACKBURN. For its local purposes Congress has never been called upon to make appropriations, and never has made them.

Mr. MANN. I understand, but why should you not make your estimates to Congress for these purposes the same as for anything else, and receive an appropriation based upon your necessities?

Mr. BLACKBURN. I know of no reason except, I suppose, it was regarded as a very natural thing to do in the ordinary course of governmental structure to take the revenues coming from local sources there and use them for local purposes.

Mr. MANN. Is not this the way that came about: Formerly these funds were collected by the municipality?

Mr. BLACKBURN. Yes; and they disbursed them.

Mr. MANN. And there was no provision made by Congress or the President until those municipalities were abolished?

Mr. BLACKBURN. Yes.

Mr. MANN. And, of course, then you took the funds and used them for practically the same purposes as before?

Mr. BLACKBURN. Yes. These restrictions were put on the disbursement of these local funds——

Mr. MANN. Of the municipality, when they collected and distributed the funds. You wanted to protect those funds from misuse in those municipalities.

Mr. BLACKBURN. Precisely.

Mr. RICHARDSON. It is practically true, is it not, that the whole government of the Zone is controlled by the President?

Mr. BLACKBURN. Oh, yes.

Mr. RICHARDSON. And that the Commission may enact a rule or law and that the President can overrule it.

Mr. BLACKBURN. Of course, by an Executive order.

Mr. RICHARDSON. And the courts that are there construe the law of the Commission and the President?

Mr. BLACKBURN. Yes.

Mr. RICHARDSON. That is the whole situation.

Mr. BLACKBURN. I do not think it has ever been determined and I do not know who would determine it, as to whether the supreme court there is, in the technical sense of the term, a court of the United States or not.

Mr. MANN. There is no question in your mind about the desirability in certain cases of giving an appeal from that court to the Supreme Court of the United States, is there?

Mr. BLACKBURN. I think that ought to be done.

Mr. MANN. That would take Congressional action, I assume.

Mr. BLACKBURN. Yes; I think so. If I were asked whether the supreme court of the Zone is a United States court within the ordinary meaning of the term, I would not know how to answer. It lacks several of the insignia of a United States court.

Mr. MANN. It is not a constitutional court?

Mr. BLACKBURN. No; it is not; nor is it a court the selection or appointment of whose judge needs the confirmation of the Senate.

Mr. RICHARDSON. It is not a constitutional court——

Mr. BLACKBURN. That is the point I am making.

Mr. TOWNSEND. I should think it would be a question of discussion as to whether any court established from time to time by act of Congress or order of the President is not a constitutional court.

Mr. BLACKBURN. Your courts in the Territories are not constitutional courts, and yet the justices of your Territorial courts need con-

firmation by the Senate. Not so in the Zone. But as to the President's plenary power in the establishment of the judicial system on the Zone I do not think that Congress could have used language which was fuller or more explicit than is employed in the conference of that right.

Mr. MANN. Would it not be desirable, in order to absolutely segregate the judicial from the administrative authority on the Zone, remembering that we have no jury system there, to make a supreme court down there to be appointed by the President and confirmed by the Senate?

Mr. BLACKBURN. It would add to the dignity of the court.

Mr. MANN. I do not refer to the dignity of the court, but I mean would it not add to their independence?

Mr. BLACKBURN. Yes; I think it would have that effect.

Mr. MANN. In case there should be an effort at the same time on the part of the Administration to force the court to do something it ought not to do?

Mr. BLACKBURN. I must say that, up to this time there has not been the semblance of ground upon which to hedge against such an objection.

Mr. MANN. I understand, and there probably never will be.

Mr. BLACKBURN. But I think that every avenue should be open to a final review of the highest judicial authority of the country of the judicial act of that judicial department down there. I do not think it should be left without a power behind it—a power of review behind it. Its judicial action ought to be subjected to such a tribunal.

Mr. RICHARDSON. You have no rule down there; you have provided no regulation by which an appeal can be taken to a higher court; you have nothing to do with that, because it is not recognized—

Mr. BLACKBURN. You mean to the Supreme Court of the United States?

Mr. RICHARDSON. I know you have a case, but how did it get there; did it get there by any rule or regulation the Commission provided?

Mr. BLACKBURN. No; it came here on a writ of error, and I was in doubt as to whether the Supreme Court was going to take cognizance of it. I was glad to see that it did take cognizance of it.

Mr. MANN. It was on the question of jurisdiction, first?

Mr. BLACKBURN. Yes.

Mr. HUBBARD. And the loan, as I understand.

Mr. MANN. Of course, if they sustained their jurisdiction.

Mr. BLACKBURN. No other question save but the one?

Mr. MANN. They have to determine first their jurisdiction, and if they determine their jurisdiction then they can determine whether the court there can punish a man without a jury.

Mr. TOWNSEND. How can the court down there, so far as that is concerned, differ from the courts in the Philippines?

Mr. BLACKBURN. I do not think there is any substantial difference. There are no jury trials in the Philippines. A case almost on all fours with this came up in the Philippines, where the action of the court in the Philippines was sustained by the Supreme Court of the United States.

Mr. TOWNSEND. The difference is, however, one is constituted by an act of Congress and the other by the act of the President.

Mr. BLACKBURN. Yes, that is precisely the description of the situation.

But I again call the attention of the committee to the fact that in granting this power to the President Congress made it as plenary as possible, not only to exercise executive power but legislative power, and especially in the establishment of a judicial system. The President was amply authorized by the act of Congress to establish that court.

Mr. MANN. In the first place, and then he had to take the position that he must exercise power when the power granted him by Congress by that act expired. Otherwise there would have been anarchy on the Zone?

Mr. BLACKBURN. Yes.

Mr. RICHARDSON. What other avenue was open for him?

Mr. BLACKBURN. None. It was not only the wisest thing in my opinion, but the only thing to do.

Mr. WANGER. You are referring now to the enactment of the legislation and not to the fact that there has been no legislation since?

Mr. BLACKBURN. Yes. Congress never undertook to legislate directly for the Zone.

Mr. WANGER. Is there any reason why Congress should not legislate for the Zone?

Mr. BLACKBURN. Only this, I should say. Conditions down there are peculiar. I doubt whether it would be wise to disturb the situation, even from the standpoint of the civil government there or the legal department there—I doubt whether it would be wise to disturb present conditions. The results attending the present organization, although they may not be definitive and fixed and settled, have been satisfactory; there have been no impingements, no failures of justice.

Of course, the committee will not lose sight of the fact that after this work is finished and the canal finished, and there will be no necessity for the maintenance of a Commission organization there, except to maintain the work there after it has been finished, the form of civil government must endure for a thousand years after this canal is finished and for several thousand years after that. We have to maintain some sort of a civil government for them.

Mr. MANN. Fortunately, we will escape that responsibility.

Mr. BLACKBURN. Yes; but as the case stands now, I am not authorized to speak for the President or the Secretary of War (who is the executive officer of the Cabinet selected by the President to do this work), but I doubt if the President or Secretary of War believes that the time has yet come when it would be wise to undertake to fix a permanent, stable civil government down there.

Mr. TOWNSEND. You understood, did you not, Senator—at least that was my understanding, and I take it it was everybody's—that the Congress delegated this authority to the Executive for the purpose of expediting the construction of the canal. Do you think the time has come when we should divide the responsibility and say that Congress shall legislate for the Canal Zone and relieve the Executive of that, or shall the Executive still be given the power?

Mr. BLACKBURN. My judgment is clear upon that, and, answering that question I think I am a competent witness, because naturally my inclinations would be toward the side of the civil government

upon the Zone, I answer your question and say I do not think the time has come.

Mr. ESCH. Supposing the Supreme Court in this murder trial pending should determine that this man did not have a fair and legal trial, would that necessitate action by Congress?

Mr. BLACKBURN. I should say it would.

Mr. ESCH. Then that may bring it to a head rapidly?

Mr. BLACKBURN. It may; but the Supreme Court has passed upon a case almost on all fours with this, that came up from the Philippines, and sustained and upheld the action of the trial court in the Philippines, which had been affirmed on appeal to the supreme court of the Archipelago. And from that fact I have a right to conclude that it is going to do the same thing here.

Mr. MANN. Is it not a fact in your opinion that so long as we are operating down there doing construction work the majority of the employees working for us being aliens and others of a low class of intelligence, that we ought to reserve an arbitrary power to maintain order on the Zone?

Mr. BLACKBURN. Yes; I am of the opinion, very carefully and deliberately formed, that it is absolutely necessary to do that.

Mr. ADAMSON. A man that is not satisfied with our system ought to go somewhere else to commit his murders and not hinder our work on the canal?

Mr. BLACKBURN. Yes; everything down there is tentative yet—

Mr. MANN. All those we found there when we went there lived under a form of government where there was no jury trial and where the judicial power was arbitrarily exercised. All who have come there since can go away again if they do not like the system that we have established.

Mr. RYAN. Do they not have a jury trial in Jamaica?

Mr. MANN. Yes; but I refer to those who lived in the Zone when we went there.

Mr. BLACKBURN. Yes; they come there knowing very well that there has not been and is not any jury system there. None of those Central American powers have the right of the trial by jury. Unquestionably the time will come when Congress will be called upon and will feel it is impelled to definitely and permanently fix a form of civil government for the canal Zone that shall approximate, I take it, as closely as difference of conditions and environment will permit, to the form of government under which we live here in the States; but as yet I do not believe that that time has come. Conditions there are of necessity tentative, and it seems to me they make necessary a more or less elastic system and framework of civil government.

You can not have it pure and simple there yet without, I apprehend, endangering the satisfactory progress of this work.

Mr. MANN. Do you think that that time will come before the work of constructing the canal is practically completed and there is a fairly permanent community on the Zone?

Mr. BLACKBURN. No; not while you have the bulk of the Zone population made up of a conglomeration of different foreign nationalities. I do not believe that the time will come so long as that condition exists.

Mr. ADAMSON. Have more than 5 per cent of them claimed to be citizens of that country?

Mr. BLACKBURN. No; not that many of them. I should say 5 per cent would be a very liberal estimate.

Mr. MANN. None of the workmen are citizens of that country there, are they?

Mr. BLACKBURN. No; we have none of that labor from that country.

Mr. MANN. And none of the ordinary labor are citizens of this country either?

Mr. BLACKBURN. No. They are in a better place; they are on a higher plane both as to wages and character of employment. We have a few officials, employees of a higher grade, that are Panamanians; none of them among the common laborers.

Mr. MANN. And those Panamanians, if they live in the Zone, can vote for Panamanian officials outside of the Zone?

Mr. BLACKBURN. Oh, yes; they have not lost their right of citizenship at all.

Mr. ESCH. Is there any trouble in administering the customs service?

Mr. BLACKBURN. Not the slightest.

Mr. ESCH. Of course there is dissatisfaction on the part of the Panamanian Government, I suppose?

Mr. BLACKBURN. The Panamanian Government, since Colonel Goethals and I left the Isthmus—we left at the same time—I understand, is making a complaint about the maintenance of the commissary system there.

Colonel GOETHALS. That took place before we left.

Mr. BLACKBURN. The complaints were made before we left, but I understand they have sent a committee on here in regard to that.

Colonel GOETHALS. Not yet. They are waiting to see whether they can come to some definite conclusion with the Commission. The mail yesterday brought me a commissary list showing that they object to the commissaries selling anything except food stuffs.

Mr. KNOWLAND. Do you undersell the Panamanian merchants?

Colonel GOETHALS. Yes; we undersell them.

Mr. ESCH. What do you sell at your commissaries?

Mr. BLACKBURN. Almost everything. Besides food, we sell clothing and tobacco and other things.

Colonel GOETHALS. We not only undersell them, but when our commissary supplies give out and we have to buy from the Panamanian merchants their prices double up on us a hundred per cent. That is the great objection to our doing away with our commissary.

Mr. ADAMSON. When you stop they will raise their prices?

Colonel GOETHALS. Yes.

Mr. BLACKBURN. We were at their mercy once before, and their contention is that we should exclude from the privileges of the commissary all the common laborers. If we do that and also pay them off twice a month, they will be willing for us to sell to our other employees at the commissary.

Mr. KNOWLAND. What have they to do with it?

Mr. BLACKBURN. In the *modus vivendi* there is a clause allowing us to bring in and sell to our employees everything that is necessary for their maintenance and comfort if those employees do not come from tropical climates; that privilege is extended only to such

employees as are not from the tropical climate. So that practically excludes our laborers. But we had to set that aside for the time being because the Panamanian merchants were not in a condition to take care of our laborers. Now they claim they are in such condition that they can take care of them, but after having supplied our laborers from these commissaries for two years it will be a hardship on them to refuse to do it any longer, and make them get all their supplies from the Panamanian merchants.

Mr. KNOWLAND. But you are obligated to do that—to not furnish them from the commissary?

Mr. BLACKBURN. Unless the *modus vivendi* is changed, which we hope may be accomplished.

Mr. MANN. You are seeking to run that branch of it in the interest of the cheapest and quickest construction of the canal, so as to take care of your employees?

Mr. BLACKBURN. Yes, to make them satisfied.

Mr. MANN. And they naturally are seeking to have the most benefit that can come to their own pockets?

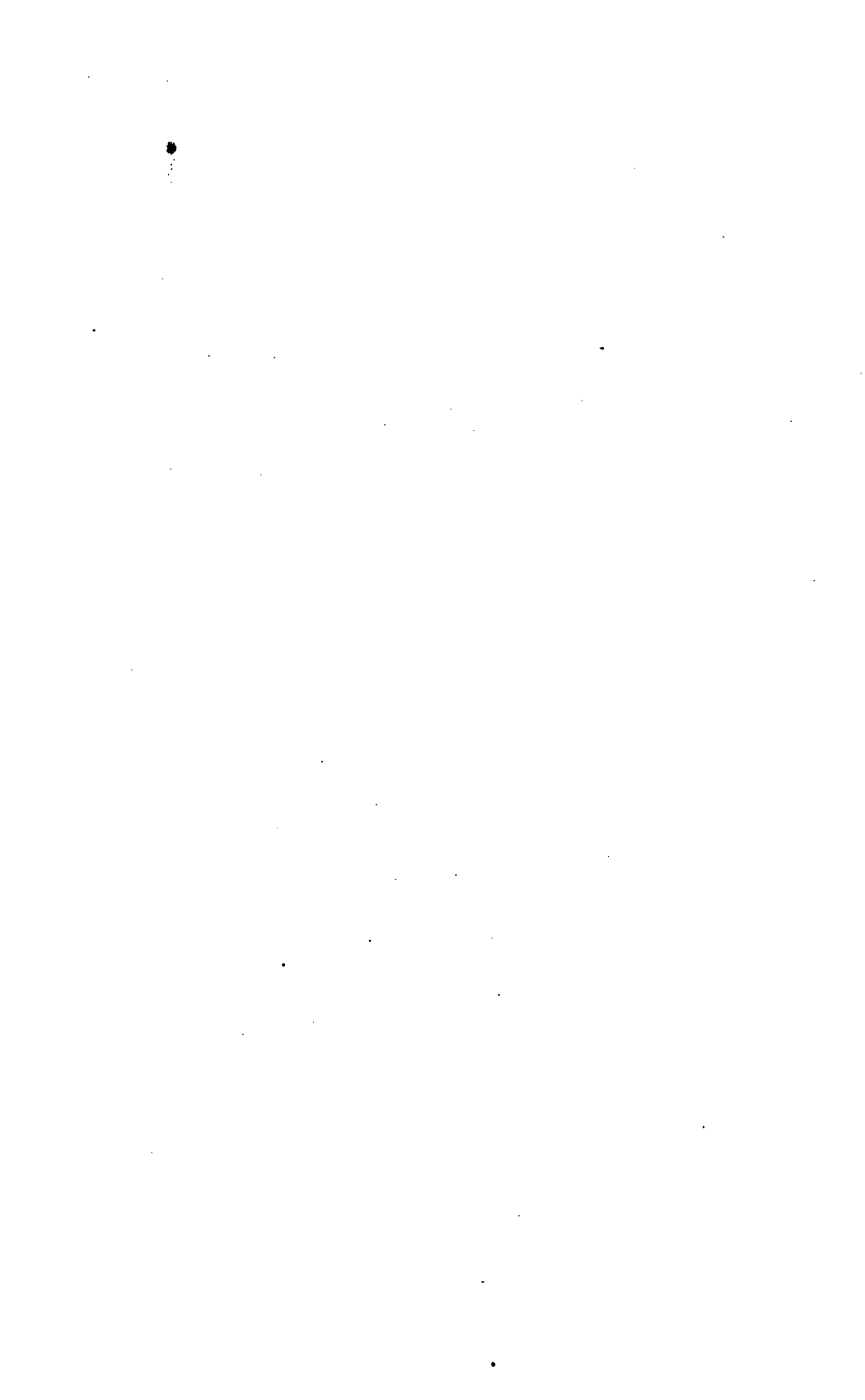
Mr. BLACKBURN. Yes.

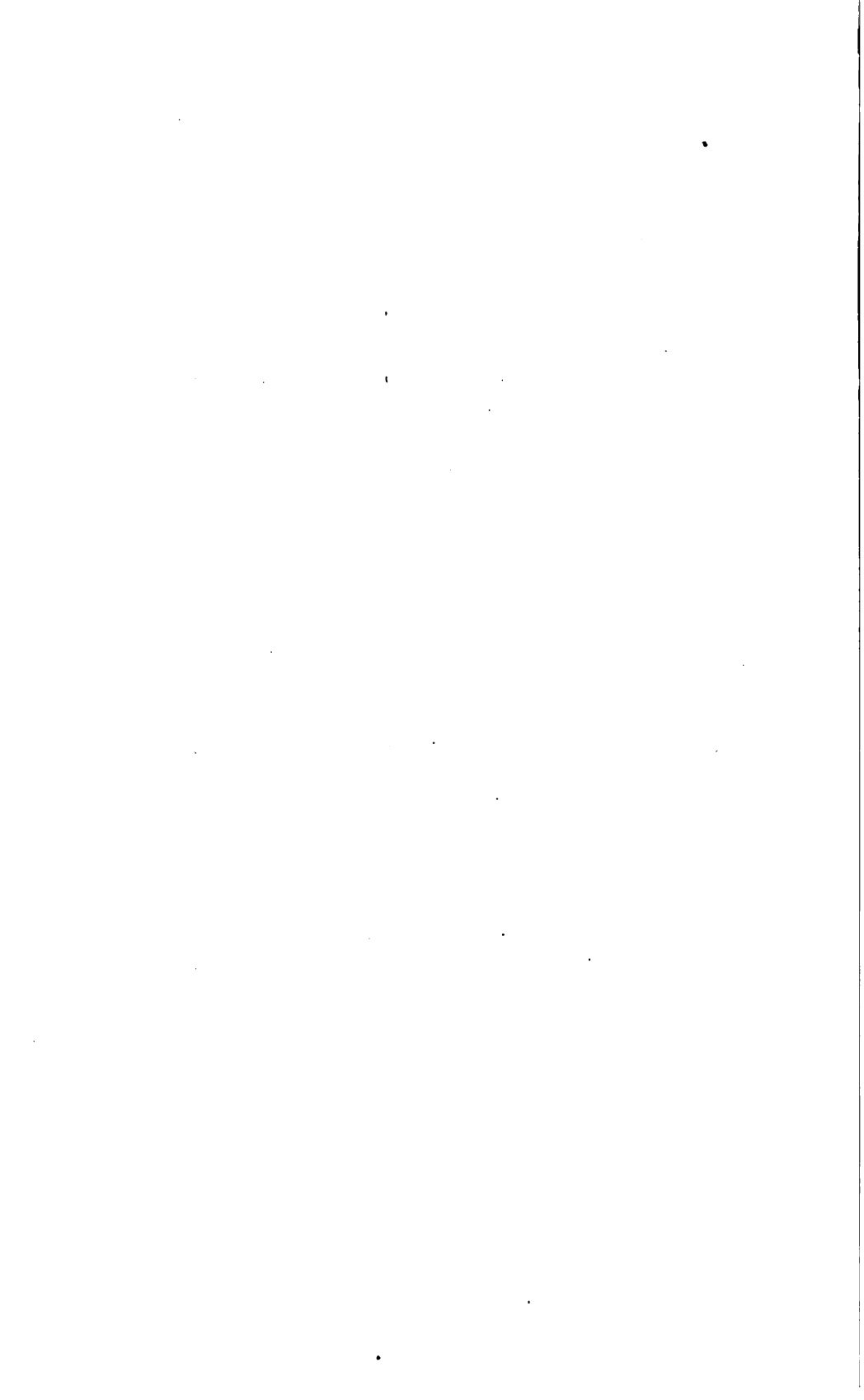
Mr. MANN. And that is the question; whether you will take care of the interests of the canal employees and the Commission or the interests of the Panamanian merchants?

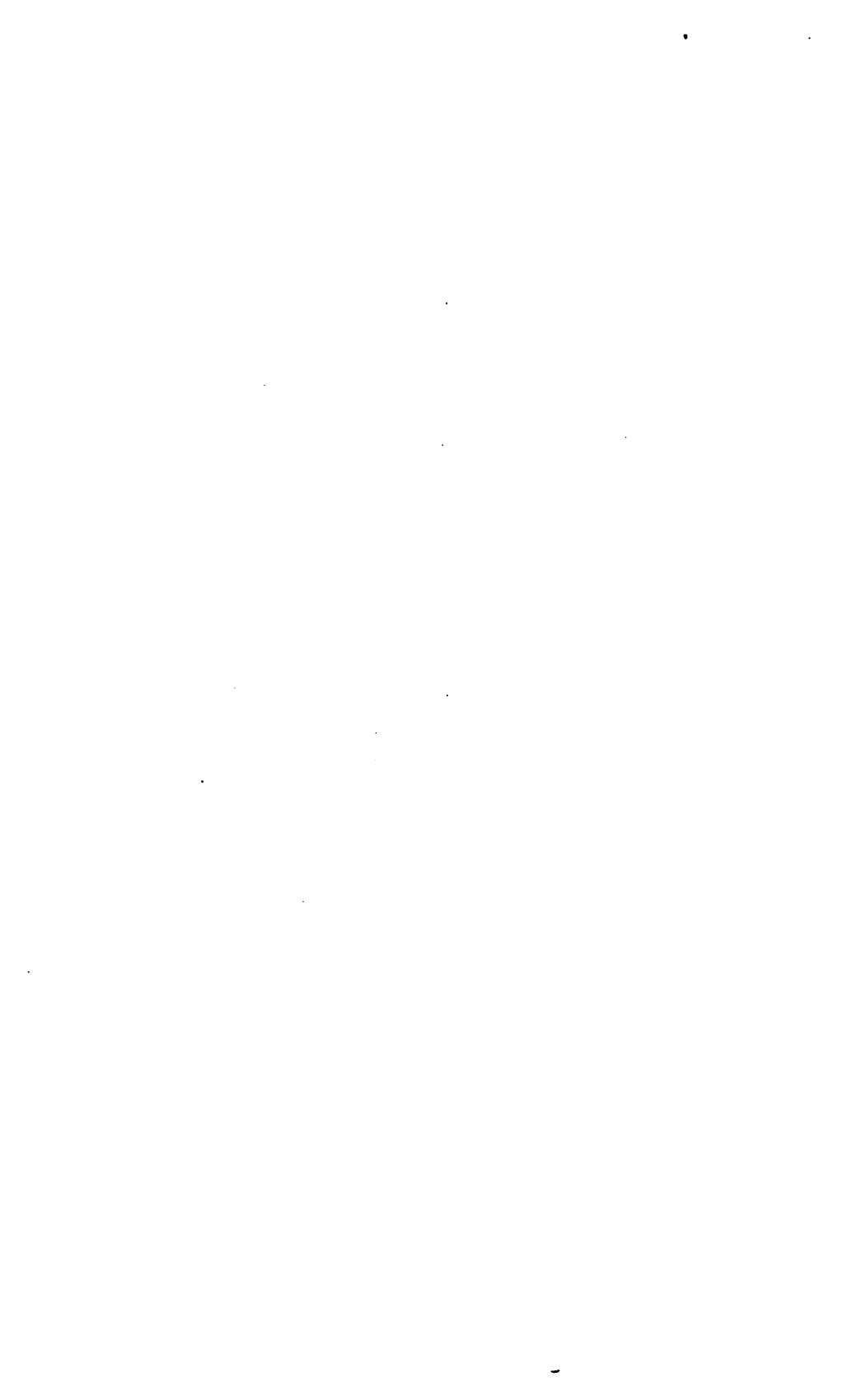
Mr. BLACKBURN. That is it.

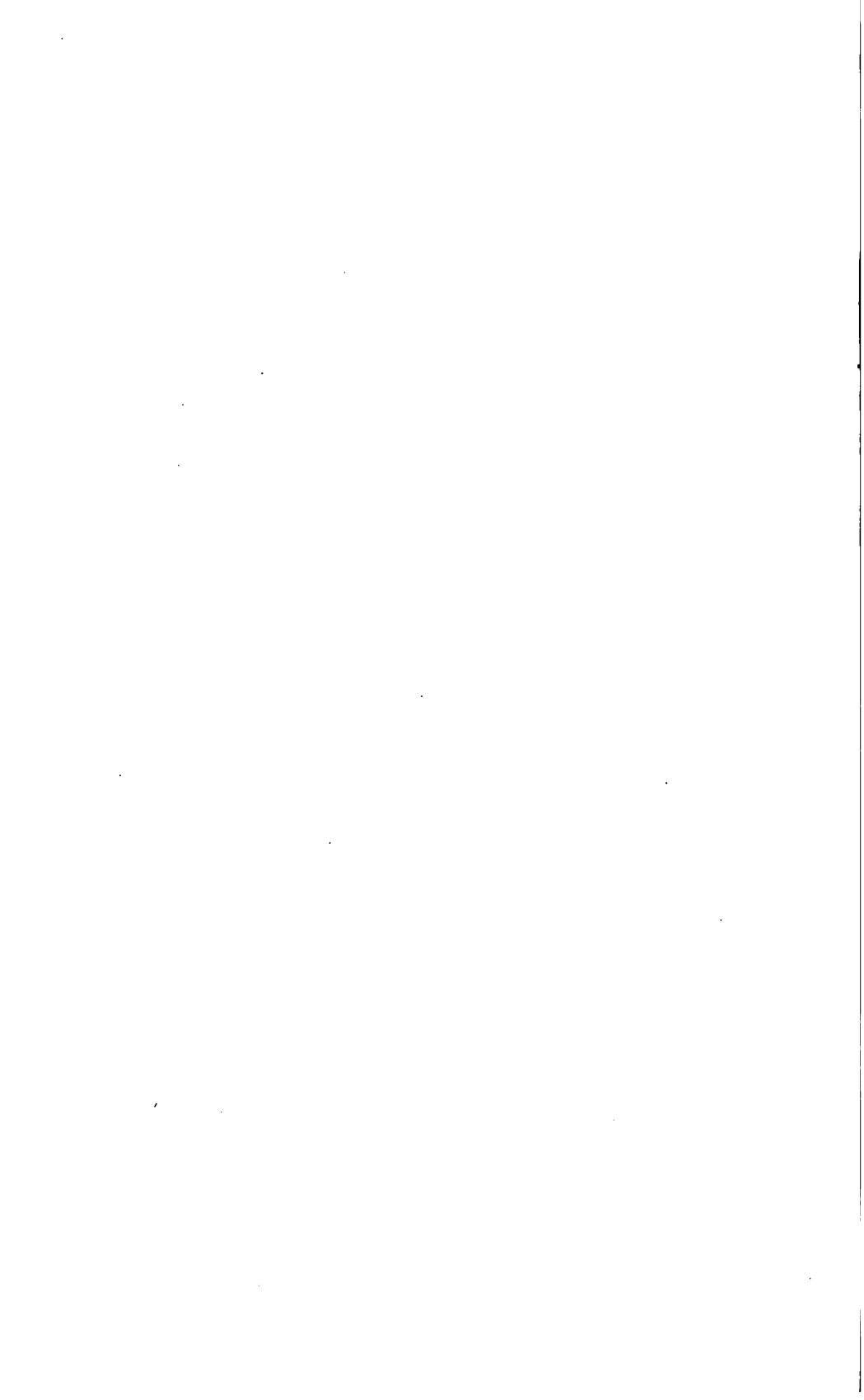
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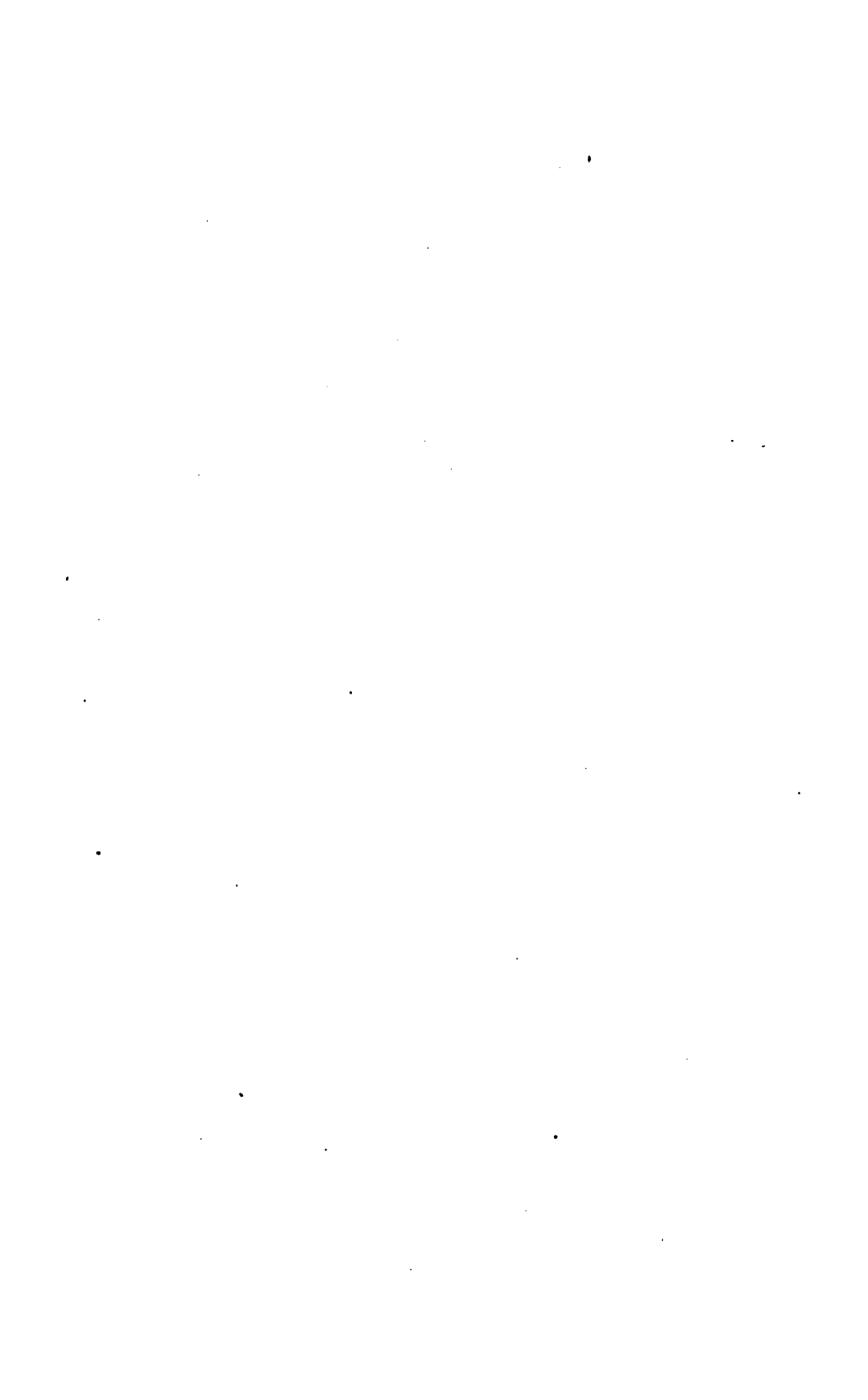


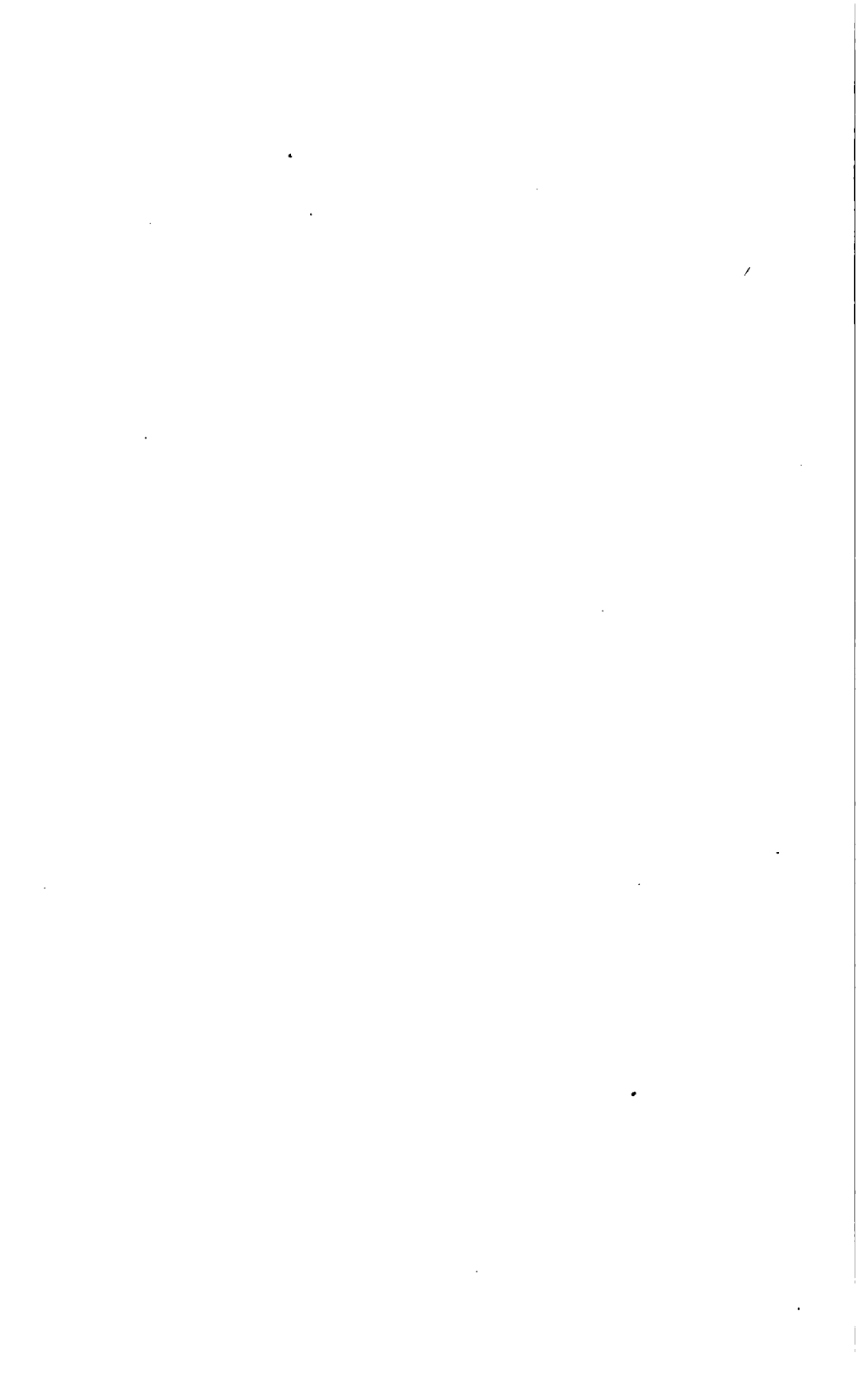


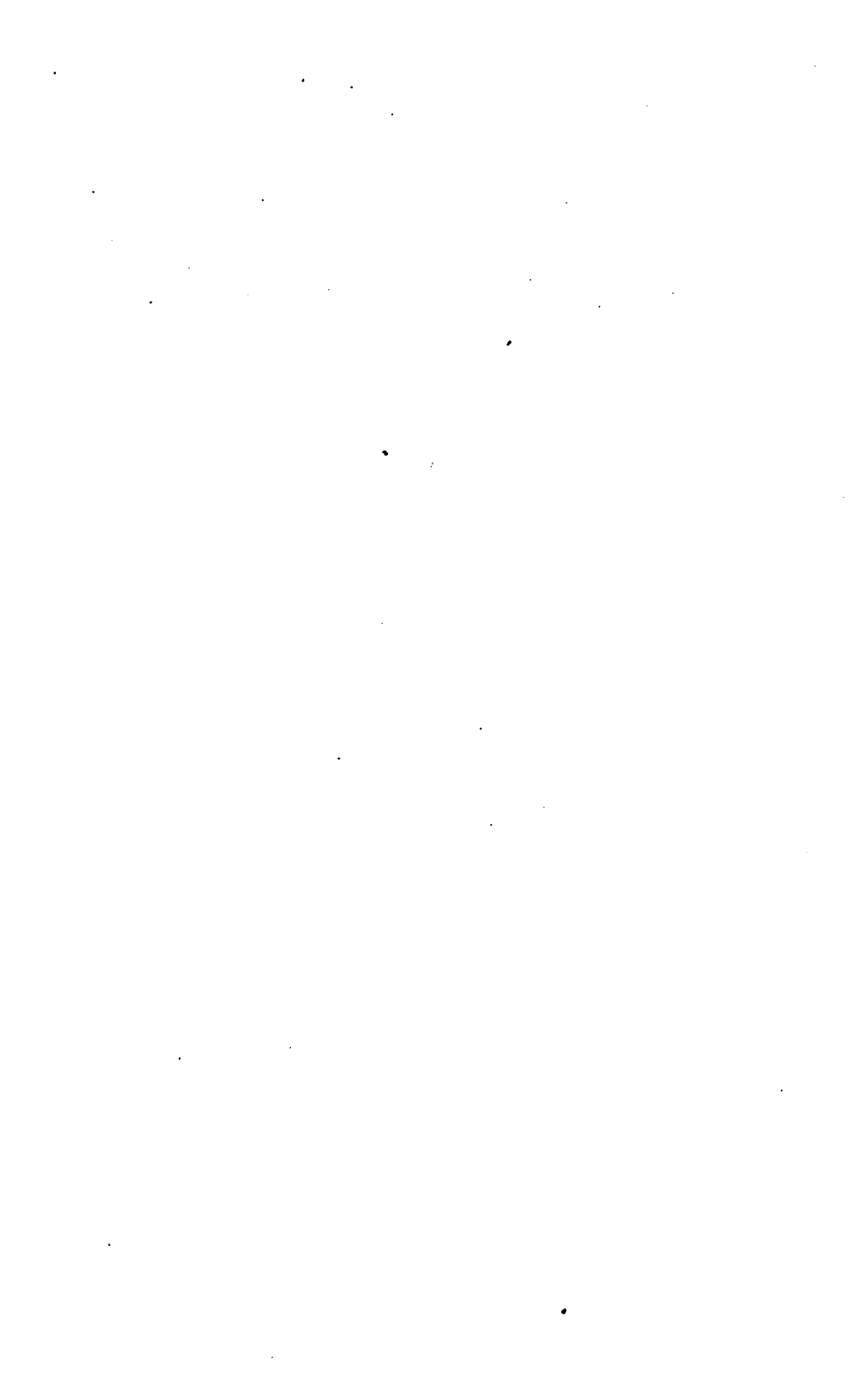


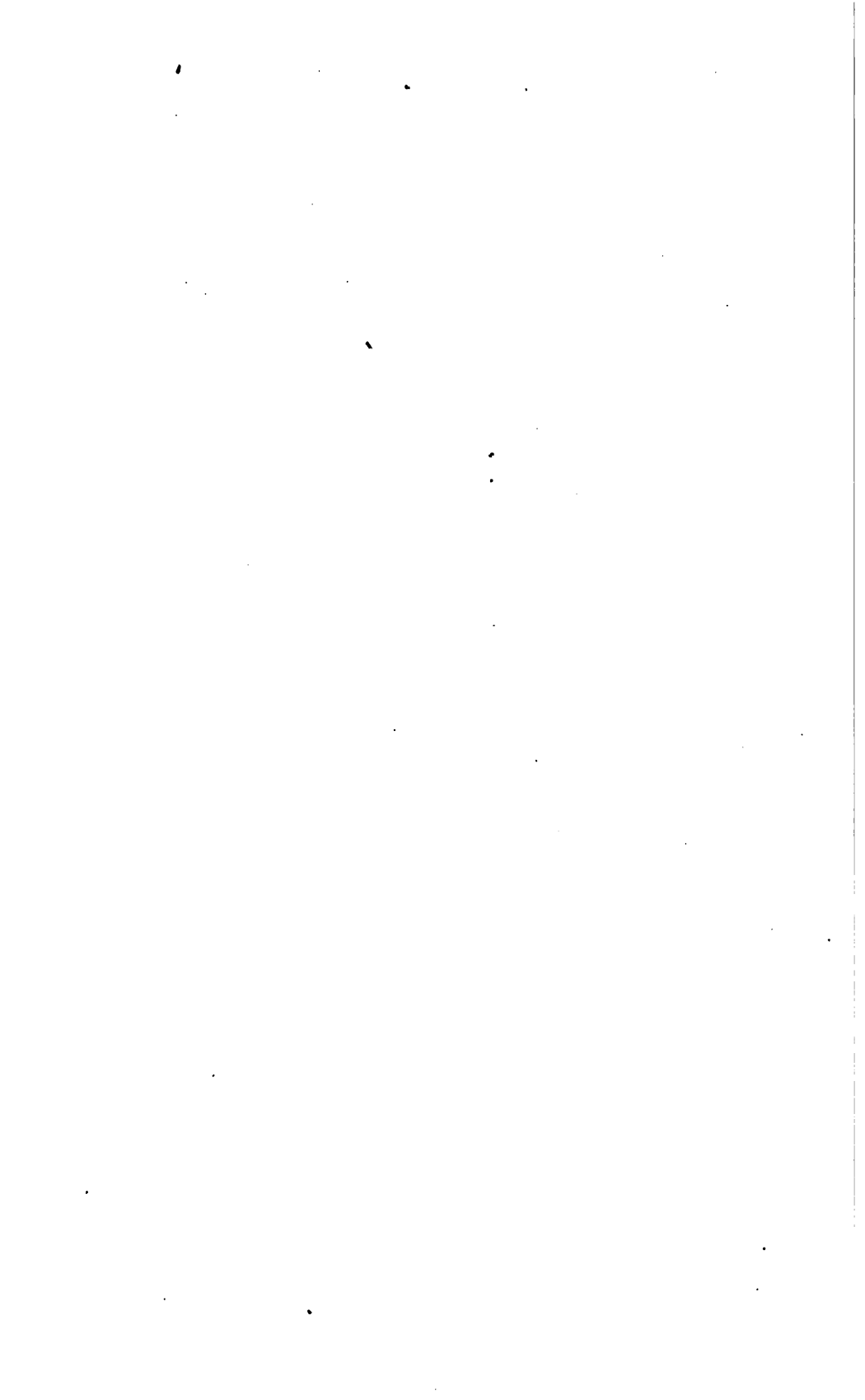






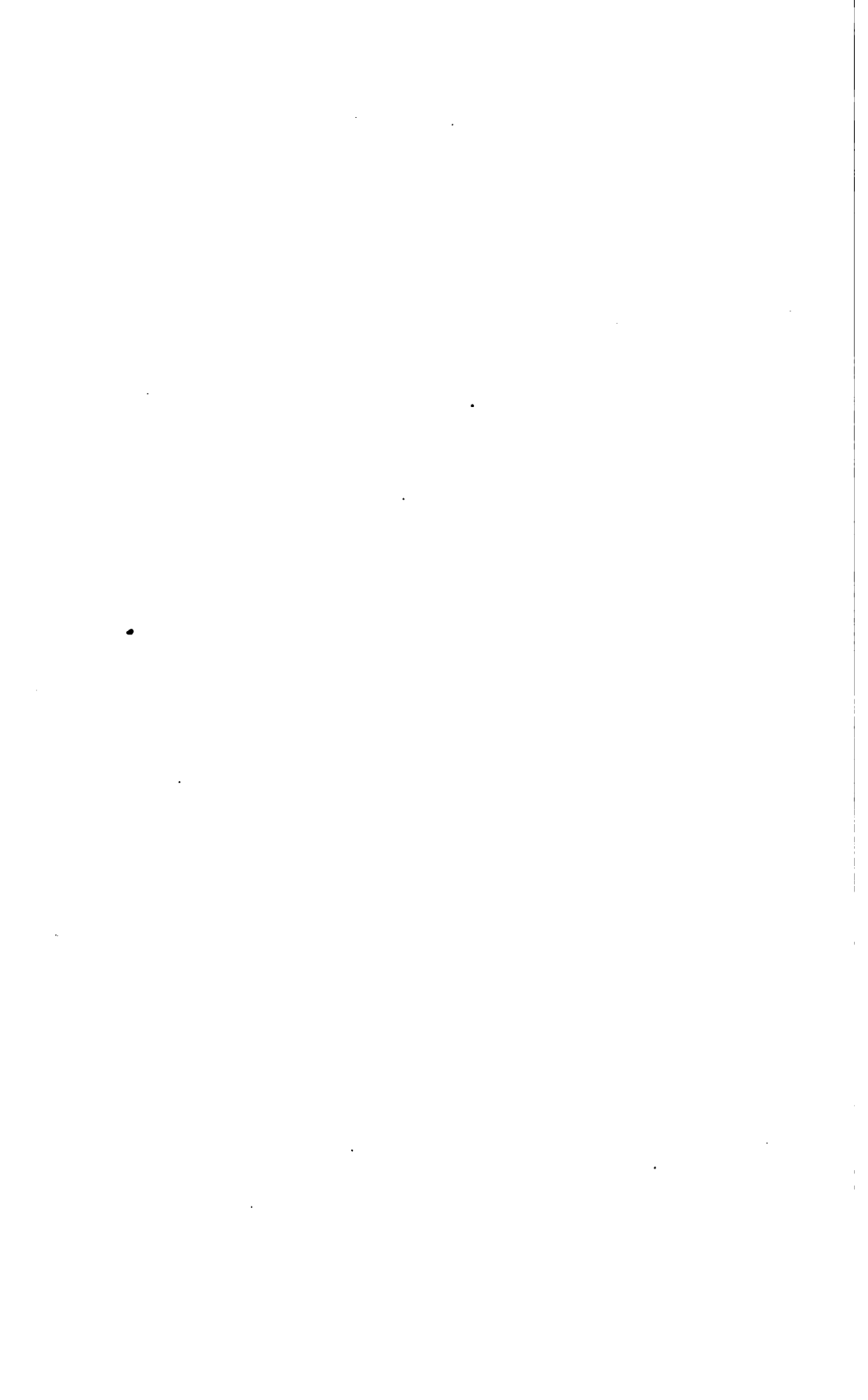


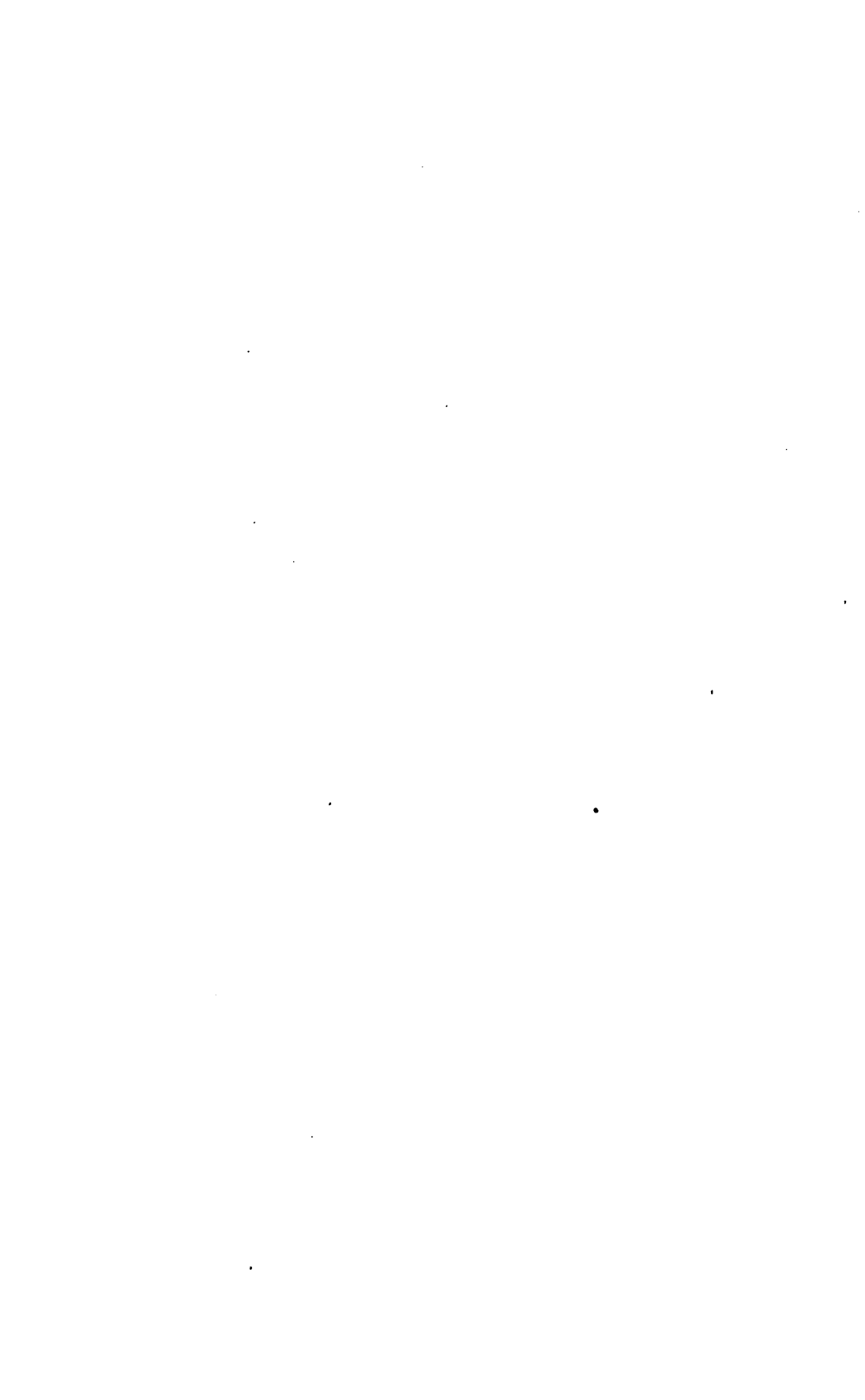


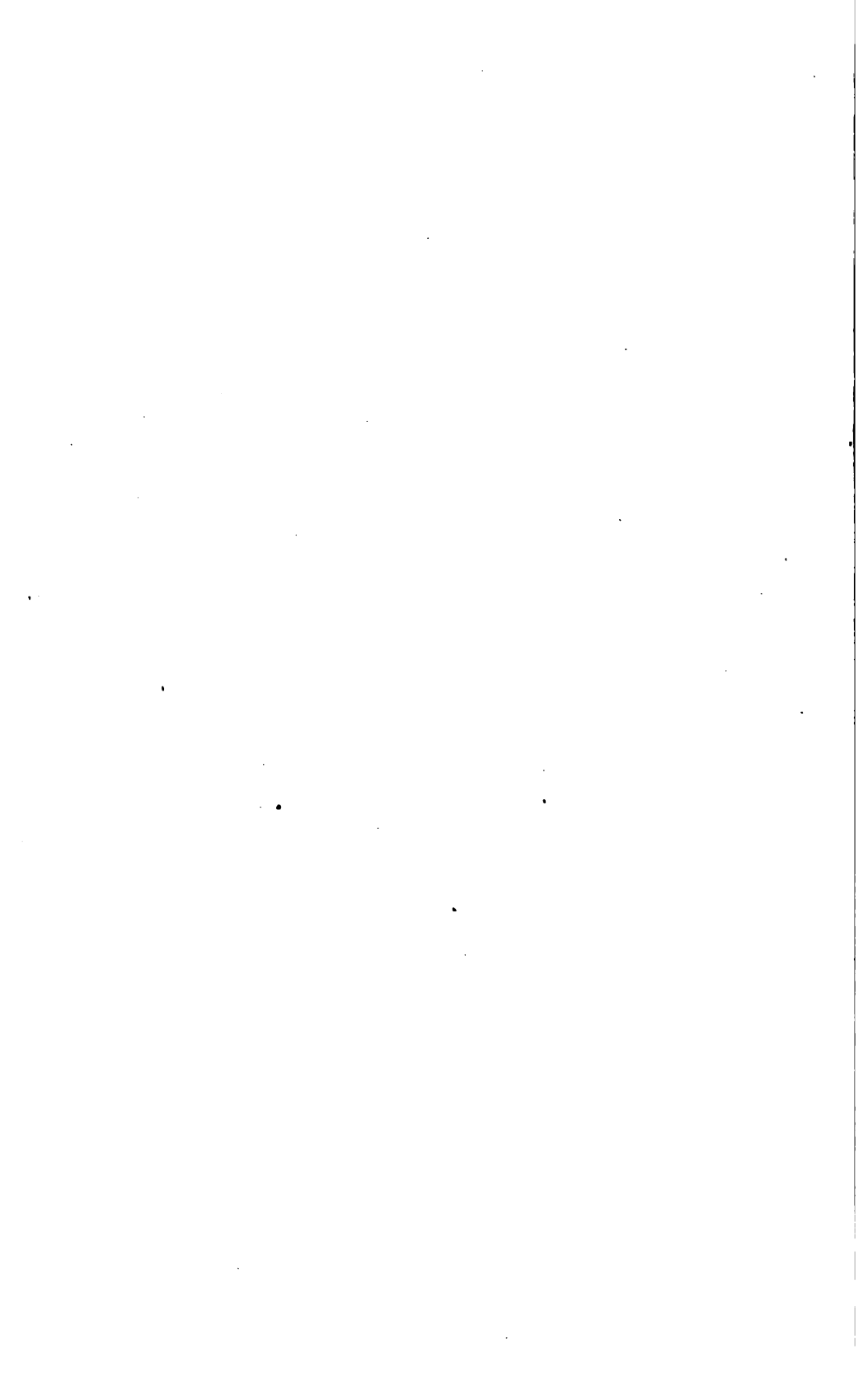




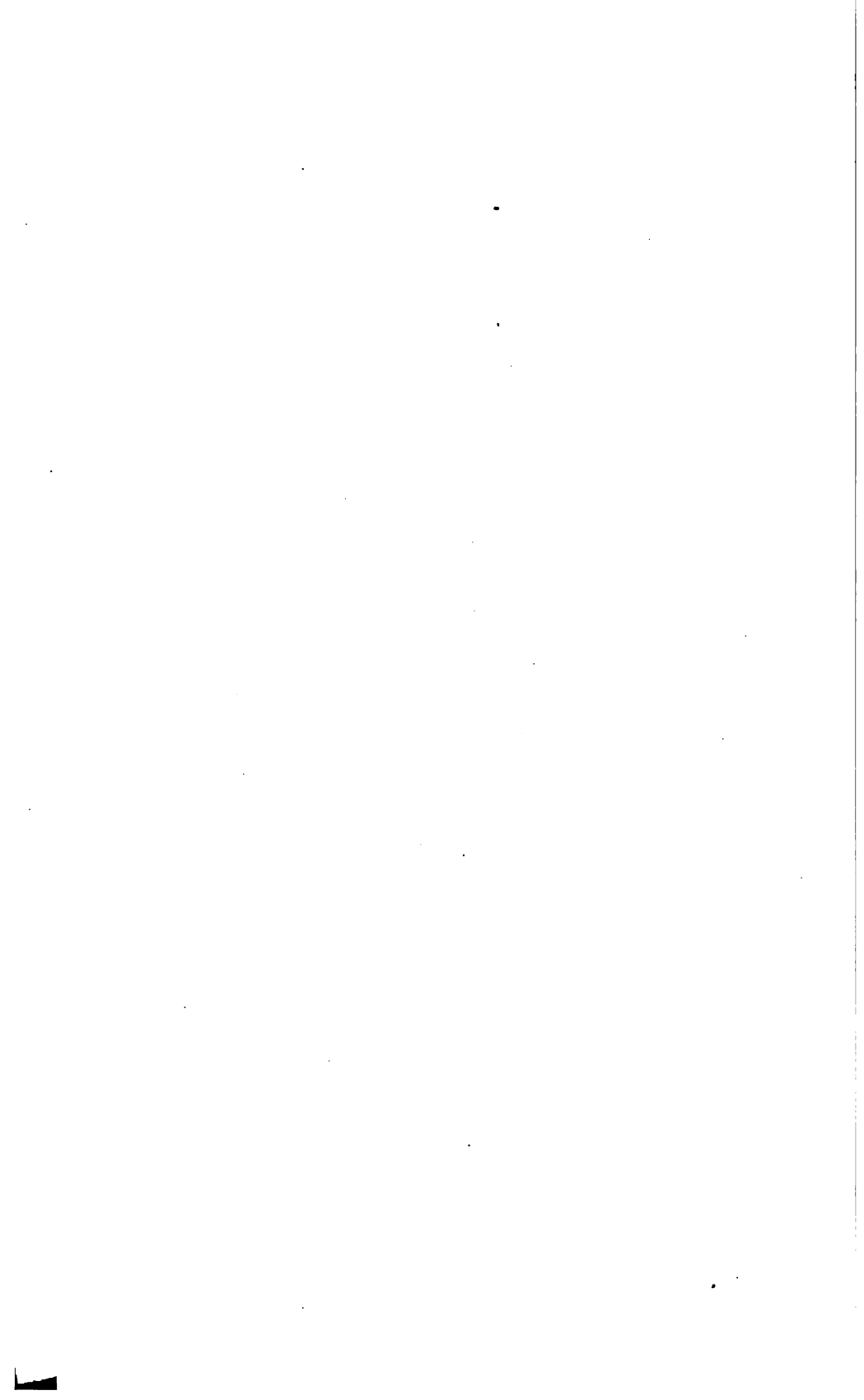


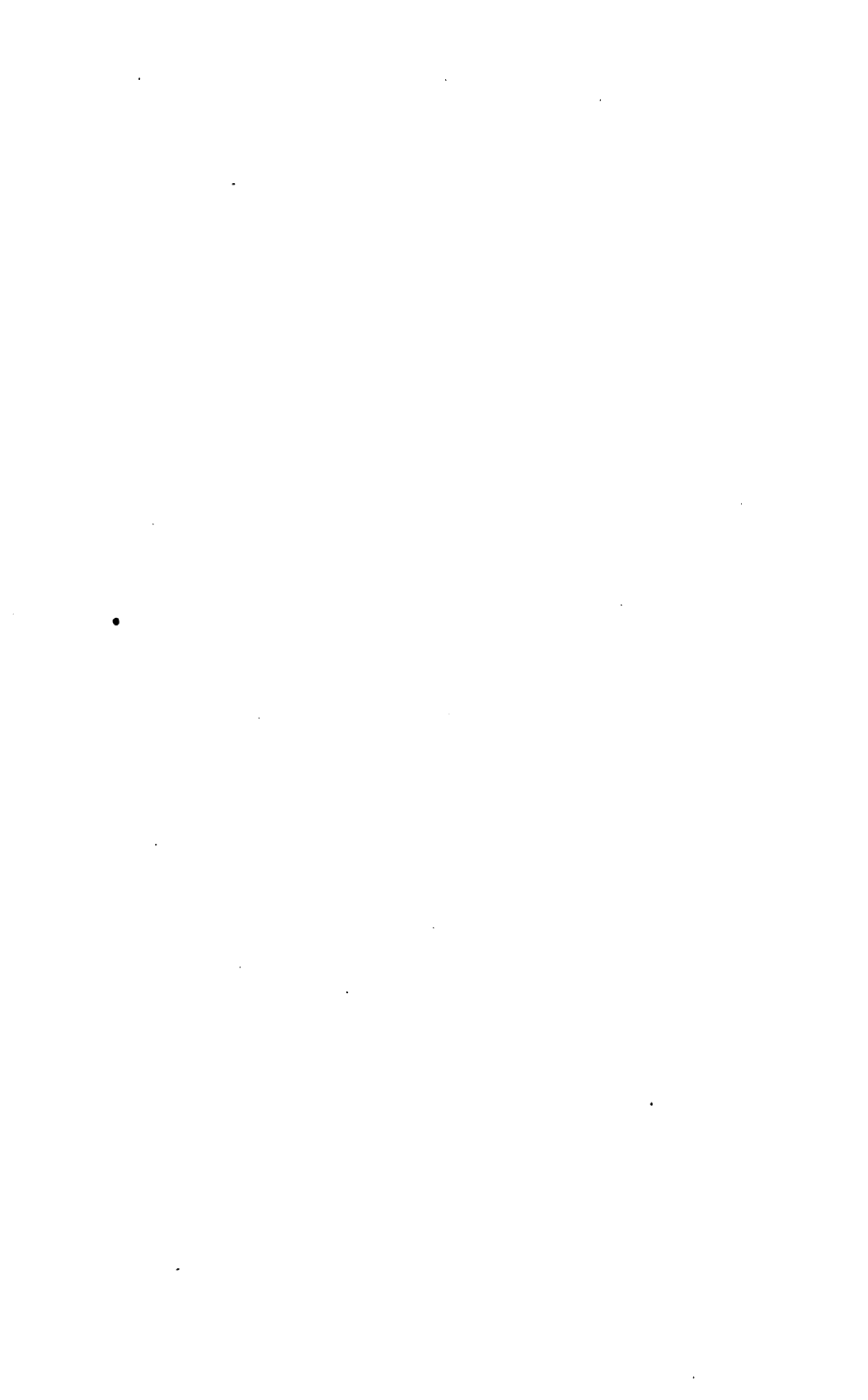


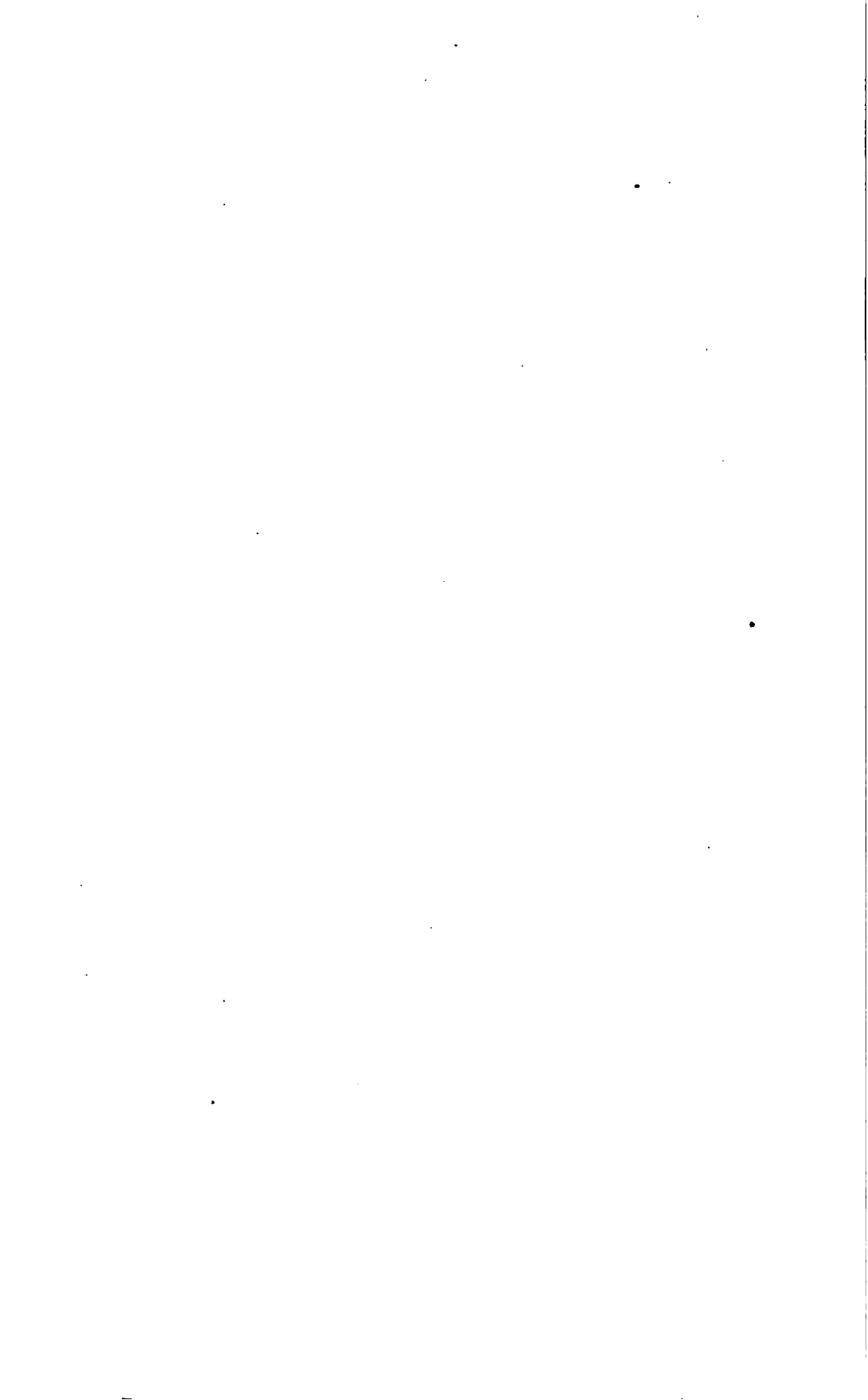




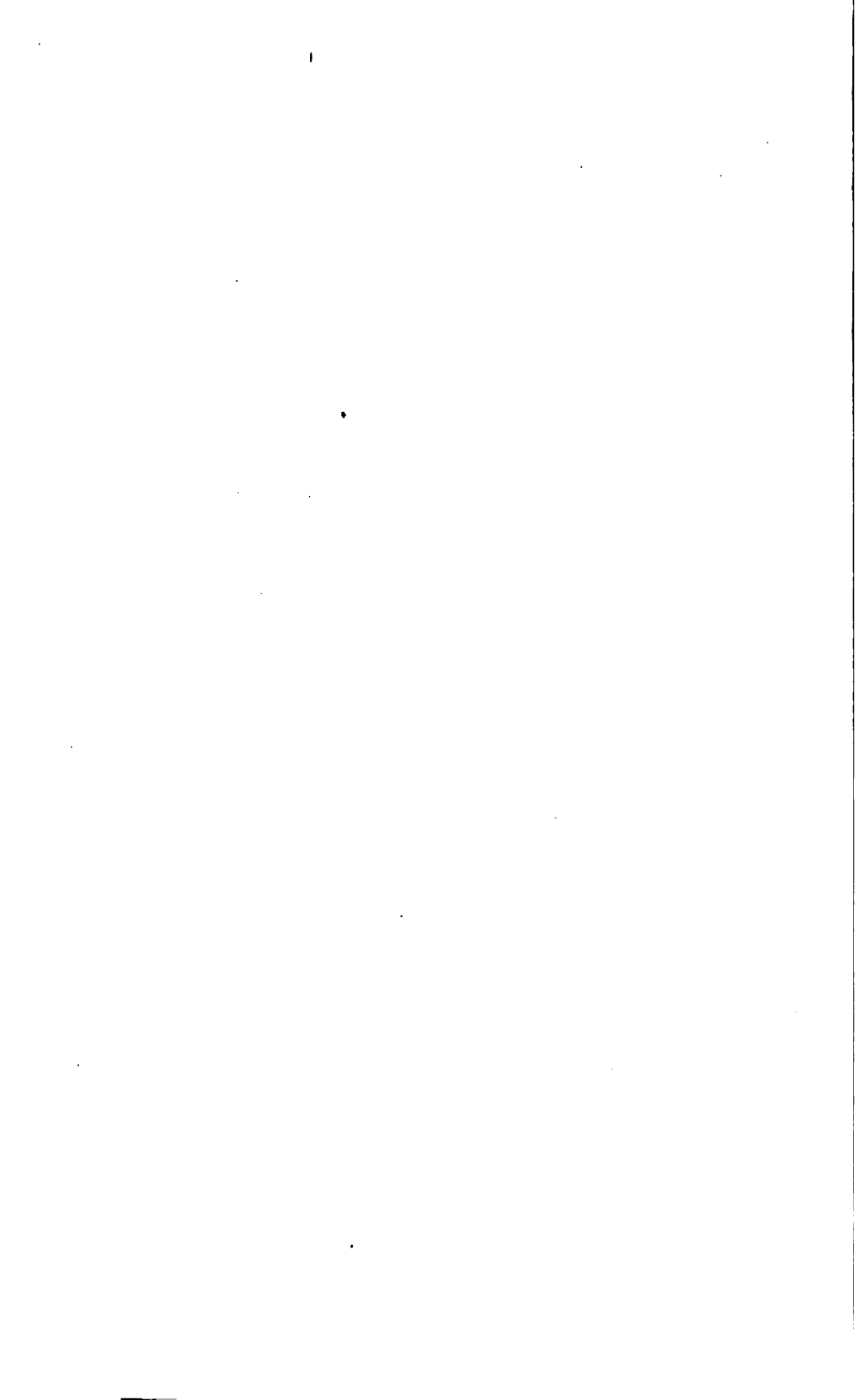


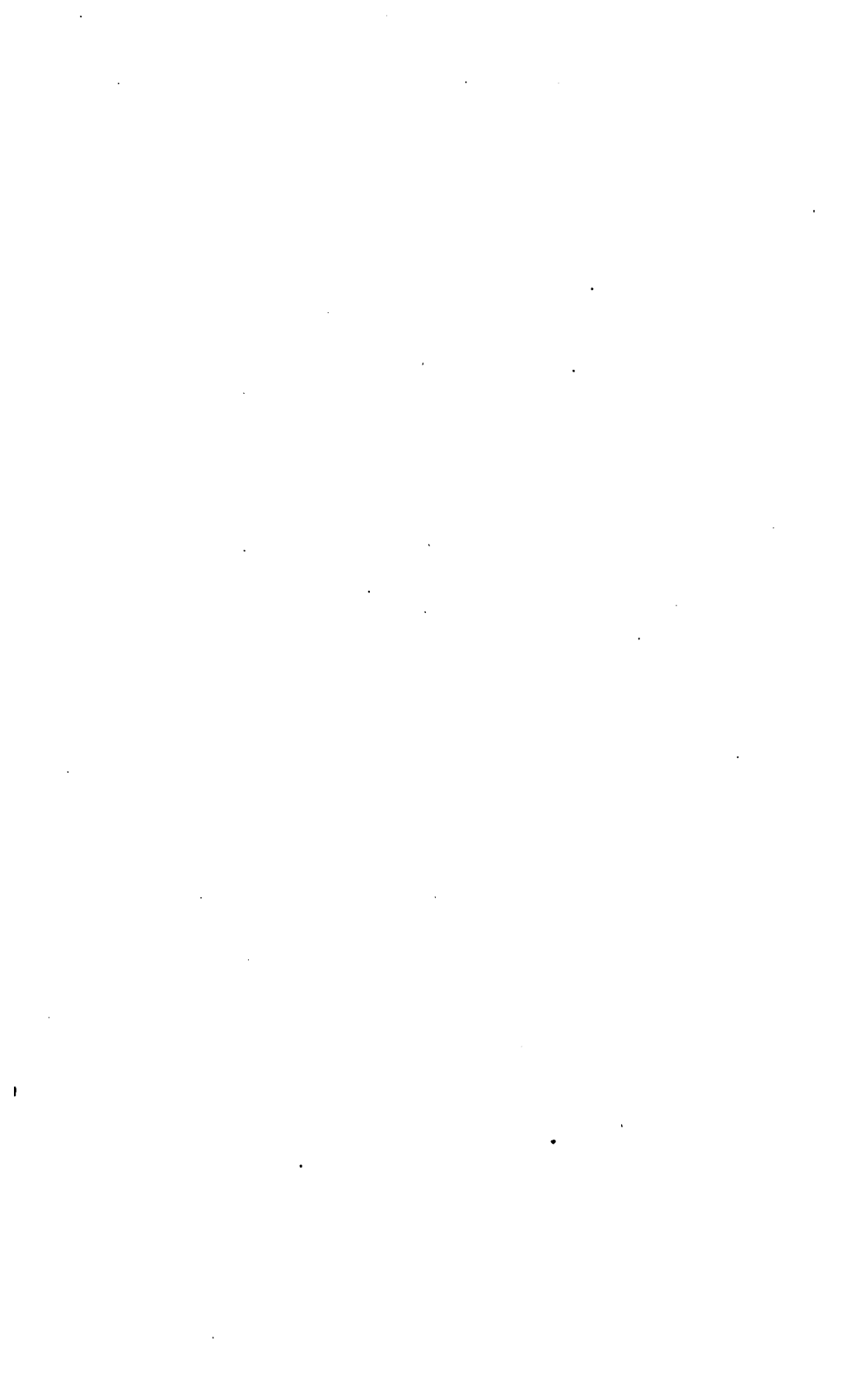


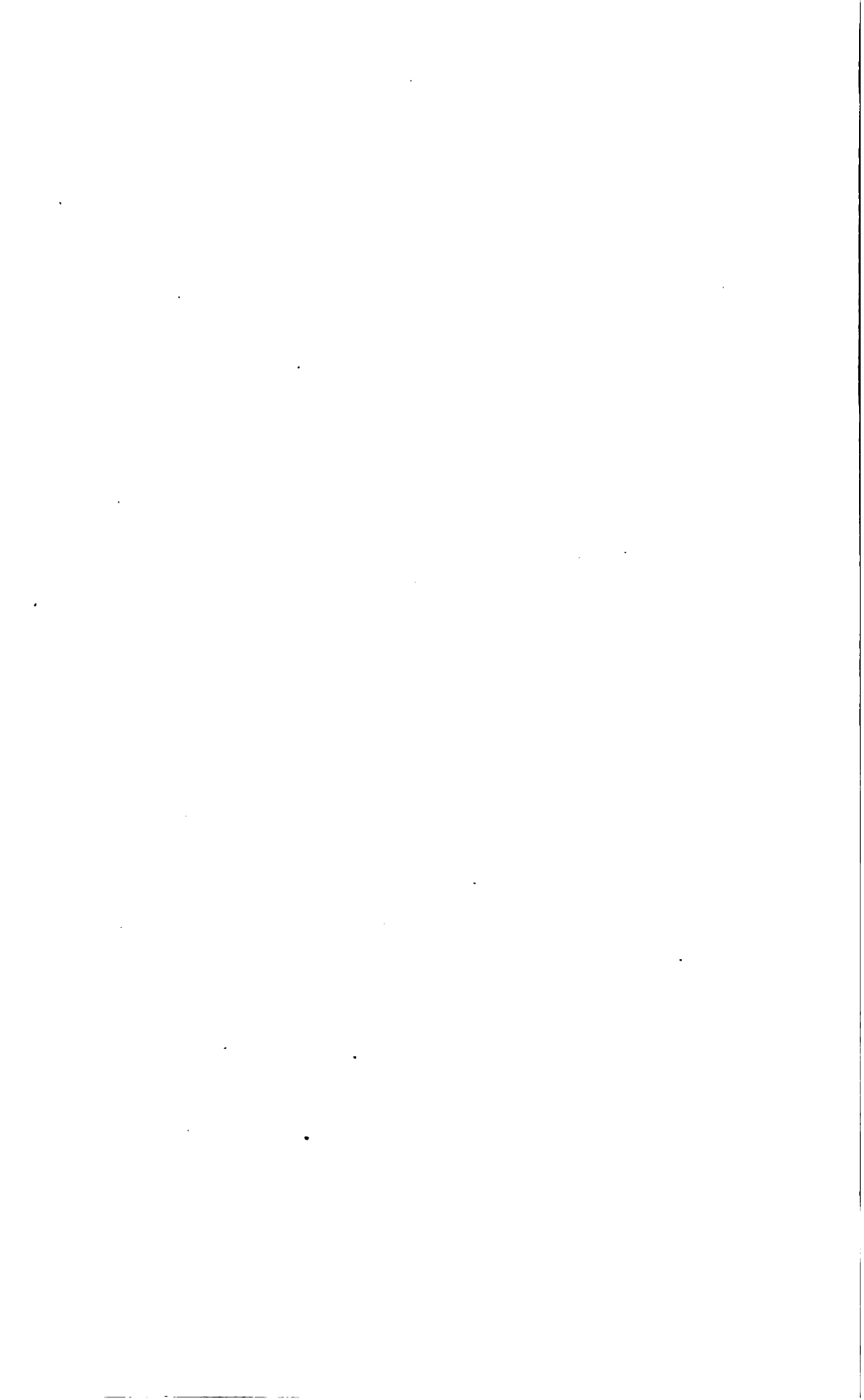


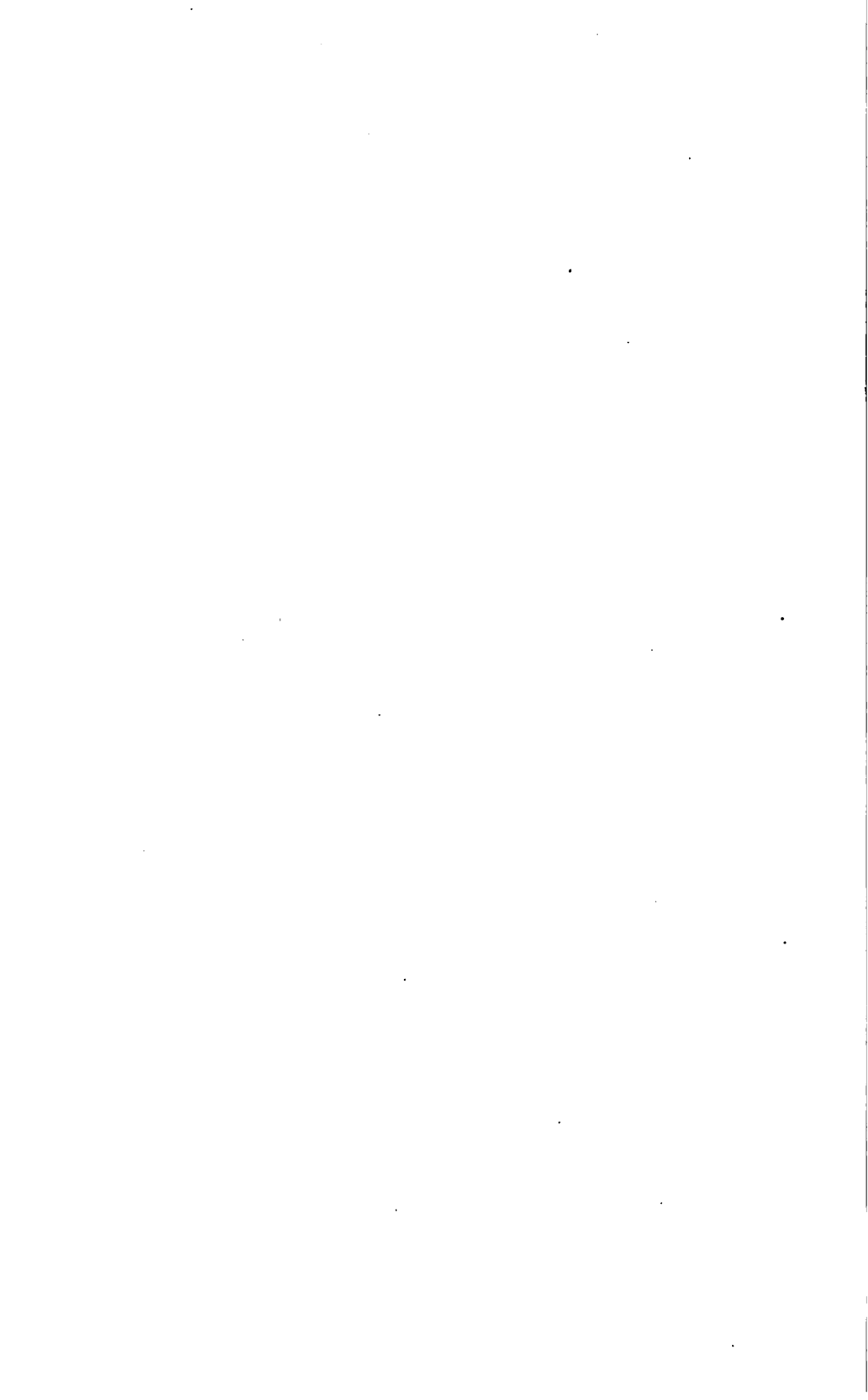








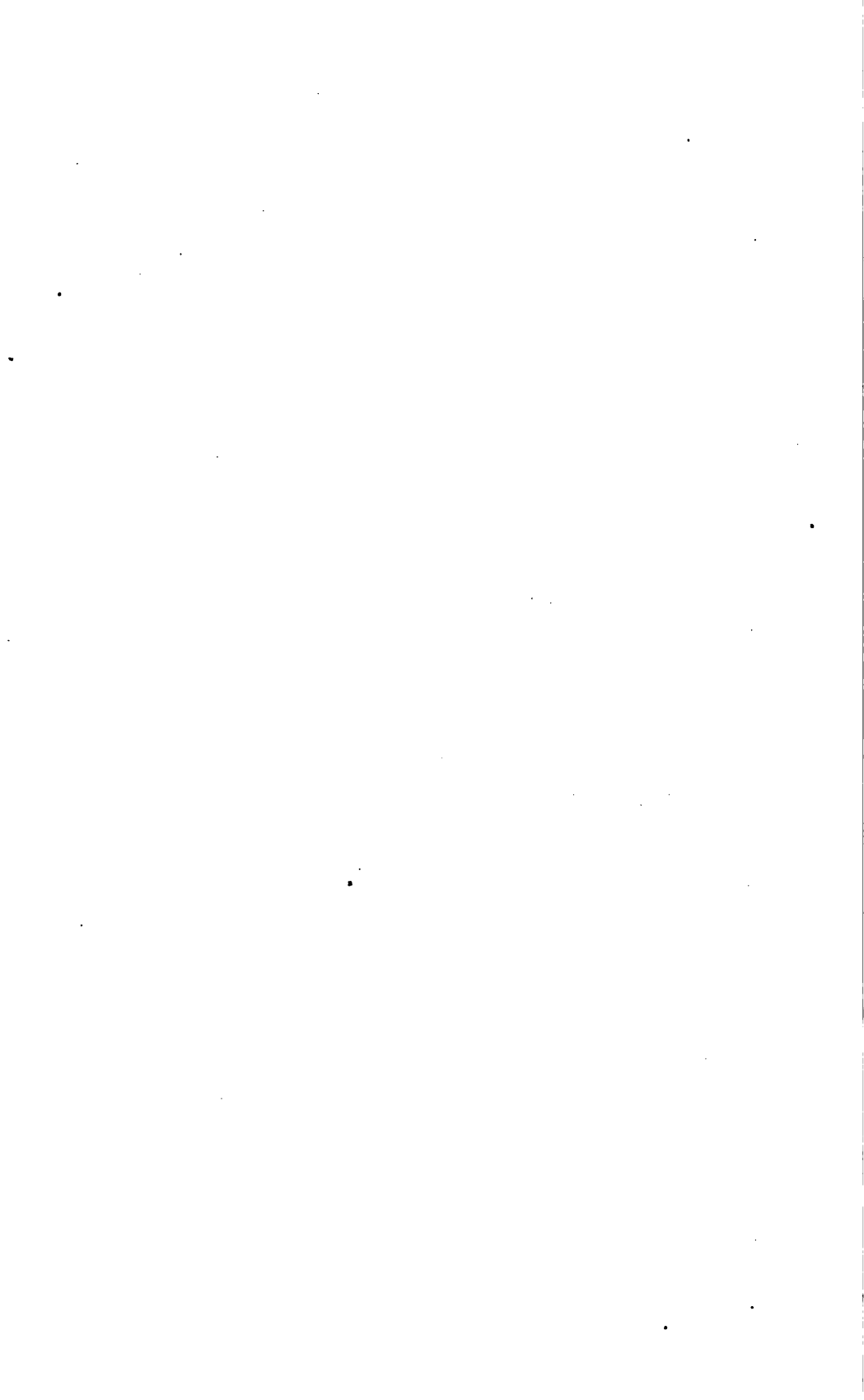




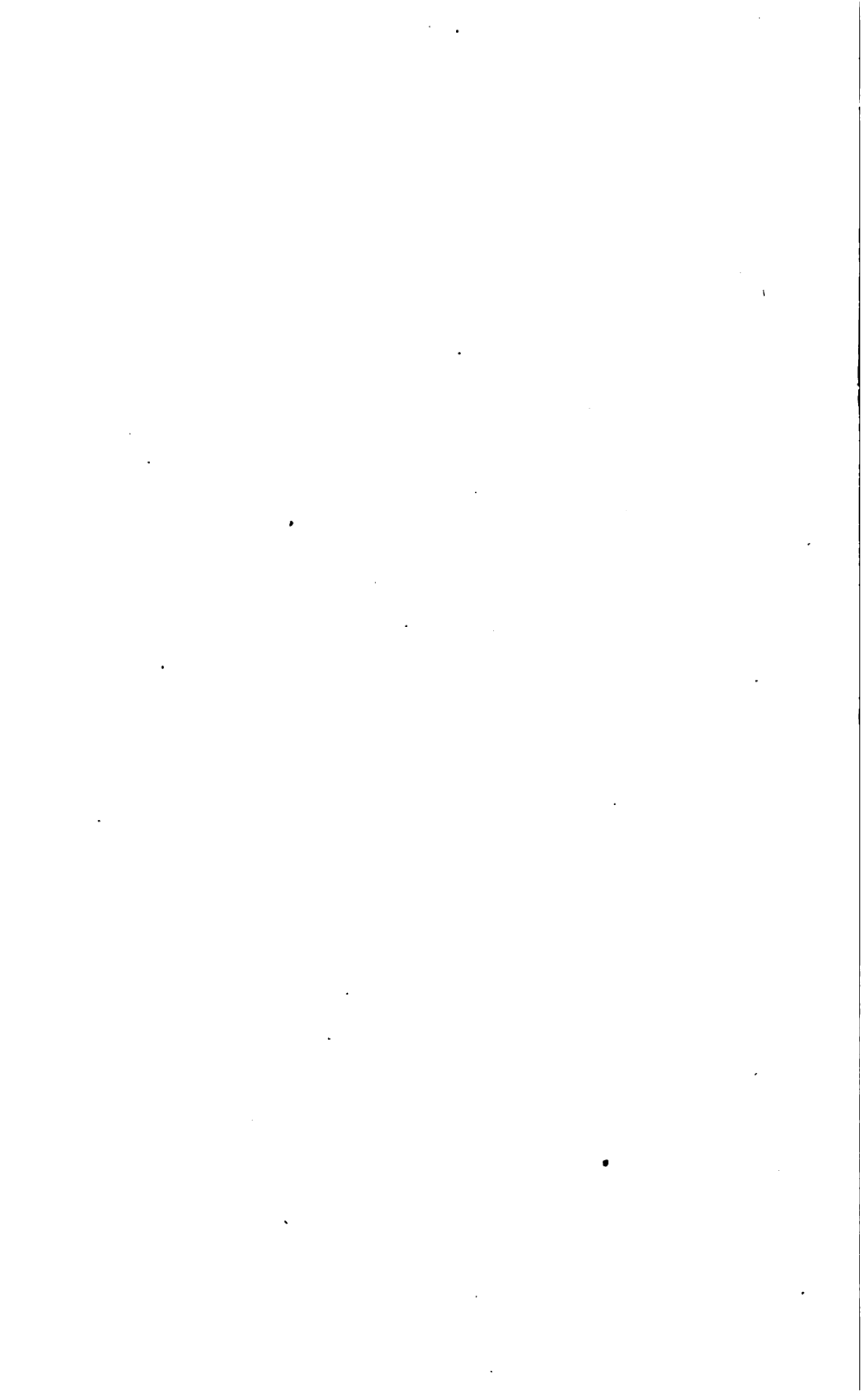




11. Apr '09



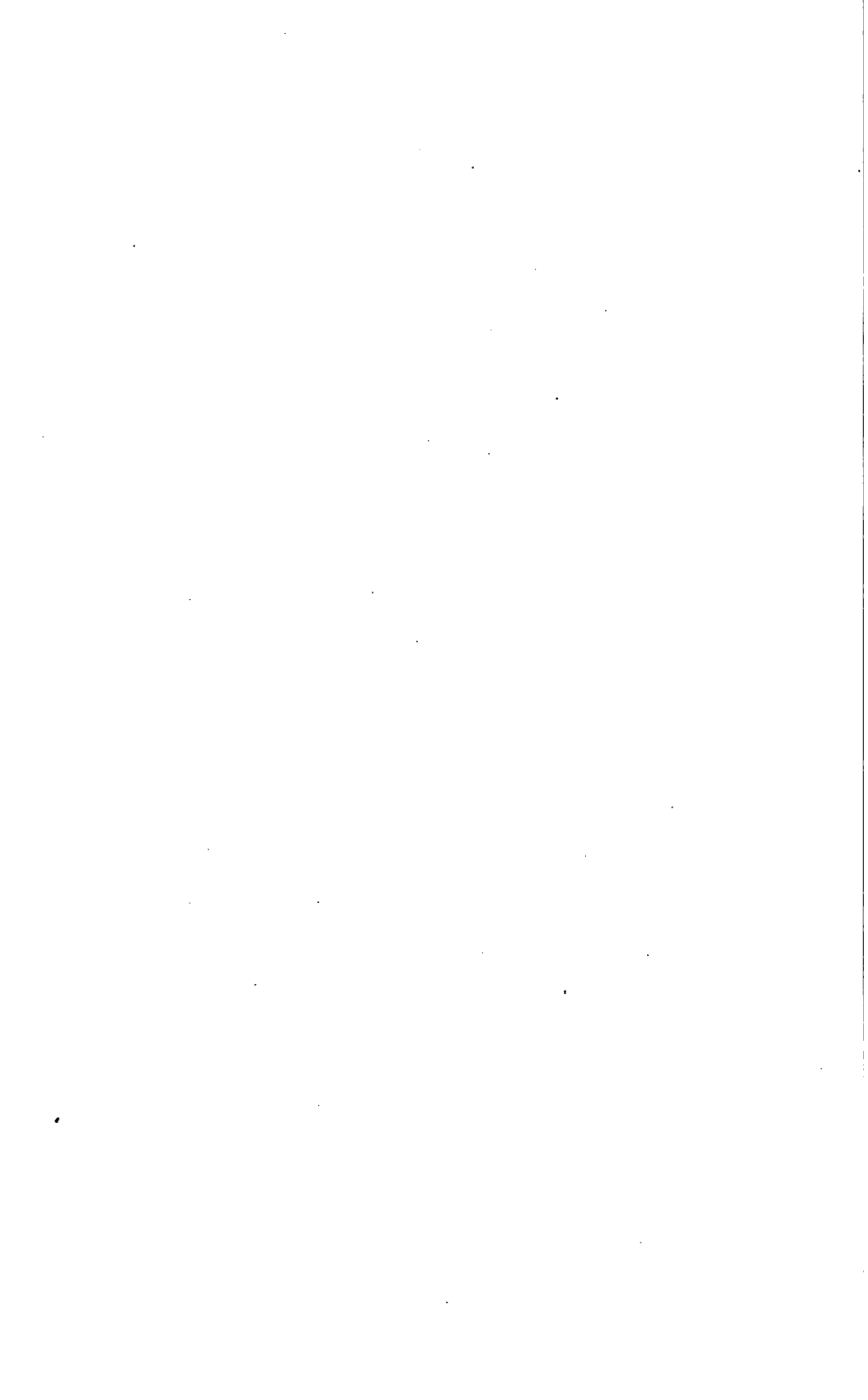


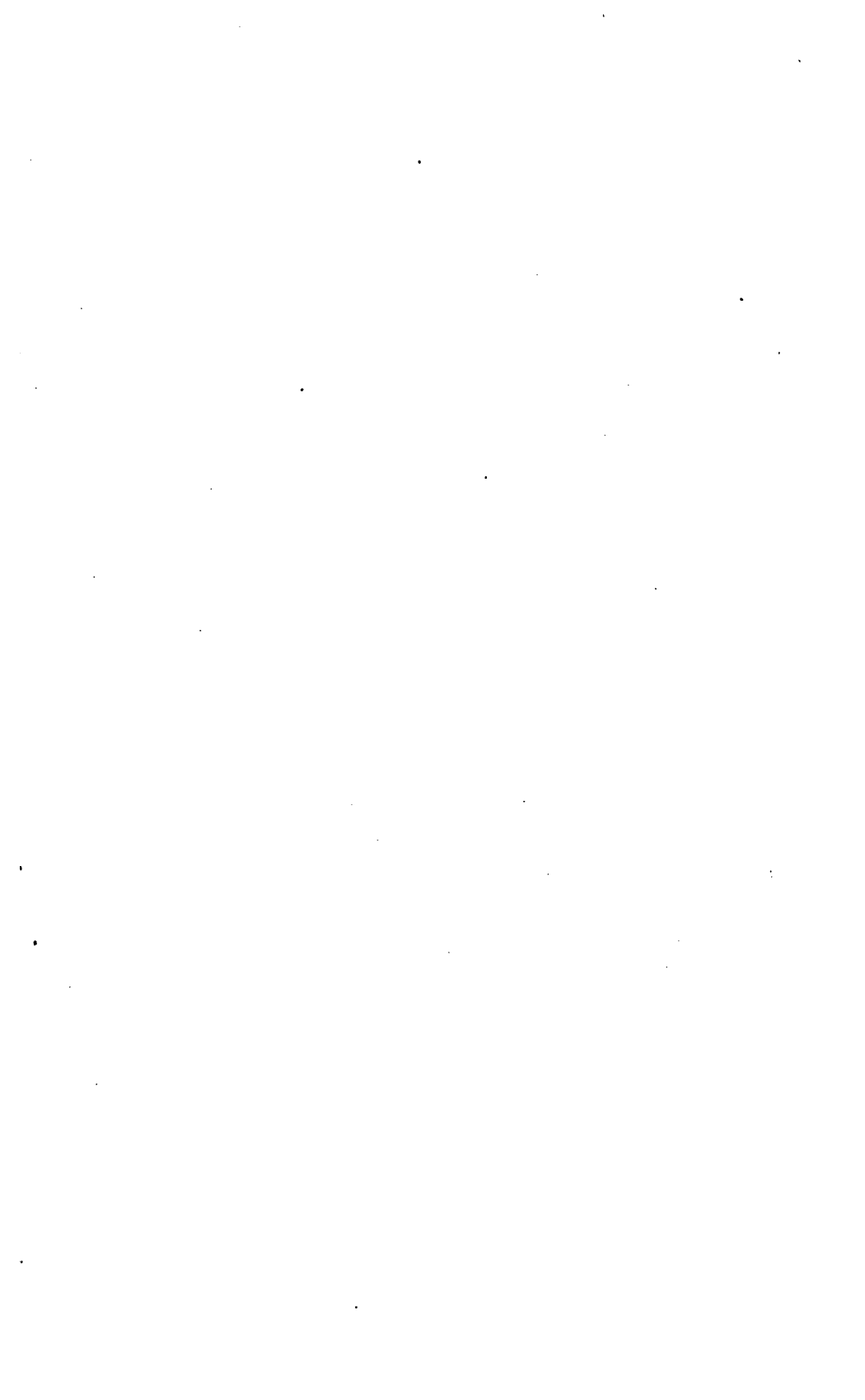


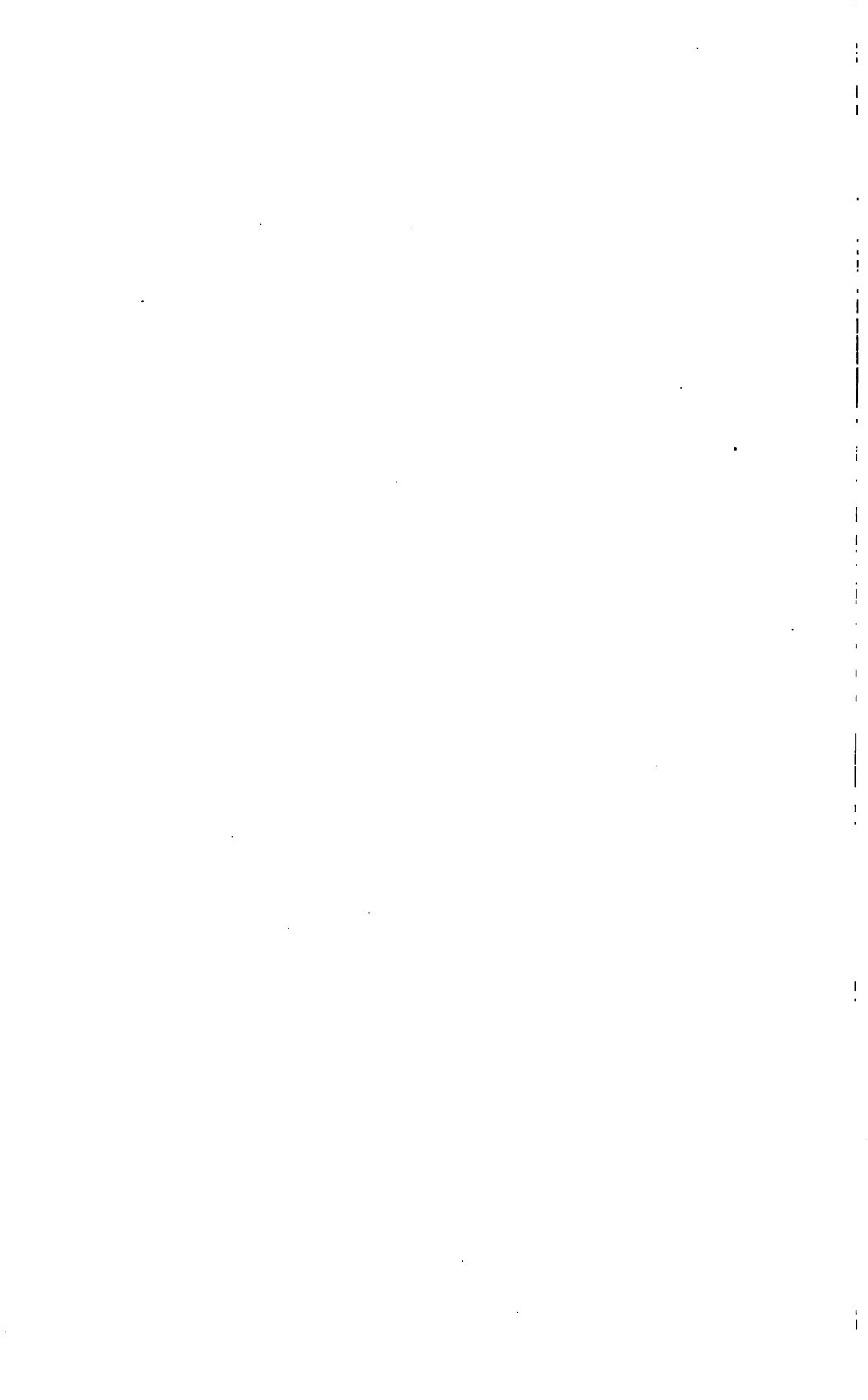












Deacidified using the Bookkeeper process.
Neutralizing agent: Magnesium Oxide
Treatment Date: Feb. 2004

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